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THESIS

A COMPUTER-BASED INFORMATION SYSTEM
FOR THE ISSUE/RECEIPT CONTROL BRANCH,
SUPPLY DEPARTMENT
NAVAL POSTGRADUATE SCHOOL

by

Thaddeus F. Zychowski

December 1982

Thesis Advisor: N.R. Lyons

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for possible utilization of a computer-based management information system which would improve the effectiveness of those processes performed within each functional area. The thesis will describe the support functions as they are presently performed and review any internal or external influences on these functions, followed by a proposed computer-based information system, its accompanying database, and a prototype system.

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A Computer-Based Information System for the Issue/Receipt Control Branch, Supply Department, Naval Postgraduate School

by

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Lieutenant Commander, Supply Corps, United States Navy
B.A., College of William and Mary, 1969

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN INFORMATION SYSTEMS

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ABSTRACT

The Supply Department of the Naval Postgraduate School is a relatively small department of the school; however, through its material acquisition function, it provides an extremely valuable service to the command in the form of material and logistic support. There are several functional areas that provide support to the material acquisition process. The purpose of this thesis is to examine these functional areas for possible utilization of a computer-based management information system which would improve the effectiveness of those processes performed within each functional area. The thesis will describe the support functions as they are presently performed and review any internal or external influences on these functions, followed by a proposed computer-based information system, its accompanying database, and a prototype system.

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I. INTRODUCTION

The Supply Department of the Naval Postgraduate School is a relatively small department of the school; however, it is representative in size of many small activity supply departments. It has an allowance of twenty-one military personnel and a ceiling of twenty-seven civilians (including four temporary personnel) with which to perform the primary functions normally performed by a supply department. Figure 1.1 depicts the organizational structure which provides and supports these functions. Unlike most small activity supply departments, however, the Supply Department, Naval Postgraduate School is unique in the distribution of its resources due to the relative importance of certain of these functions to the overall mission of the command.

Any supply department will rely heavily on the material acquisition function to meet the material and service needs of the command. In most cases the majority of acquisition actions result in the acquisition of standard stock material through the federal supply system whether it be Naval, Department of Defense, or General Services Administration. Due to the uniqueness of the mission of the Naval Postgraduate School, that of academic instruction, the vast majority of acquisition actions results in the procurement of non-standard stock material and/or services. Non-standard stock is that material or service which is not available or cannot be acquired through any of the federal supply systems. An examination of supply department records indicates that the normal distribution of acquisition actions between standard and non-standard stock is about 20% and 80% respectively. The point to be understood here is not so much this lopsided distribution between two different

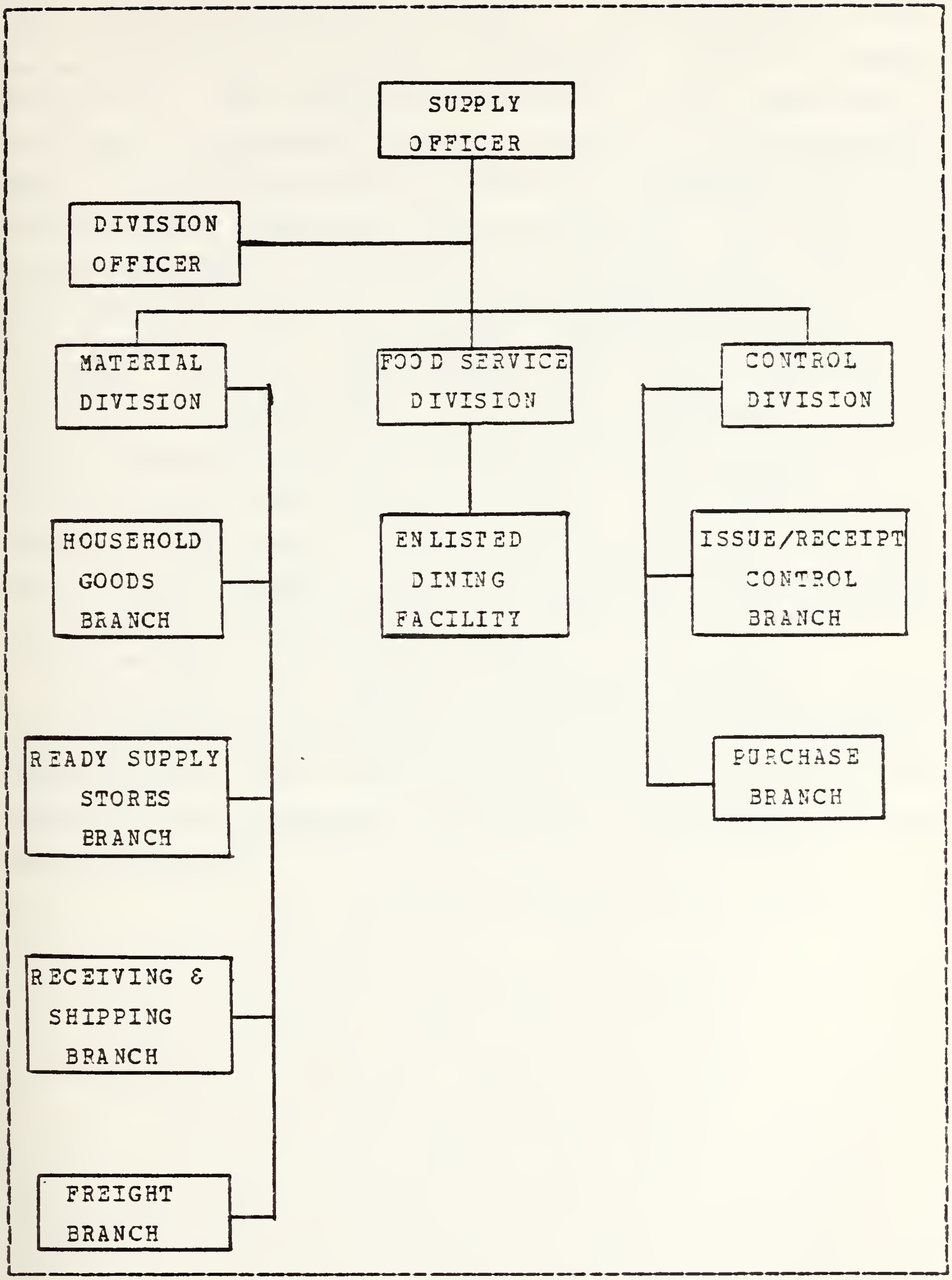


Figure 1.1 Supply Department Organization Chart.

types of acquisition actions, although the relevance of it will appear throughout this thesis, but the relevant importance placed upon material acquisition at this command. Perhaps the most convincing evidence of its importance is the amount of personnel resources devoted to its accomplishment. Of the forty-eight personnel complement authorized for the Supply Department six are directly involved in the actual acquisition of material or services and twenty-six are indirectly involved in providing support functions such as technical edit and review, status maintenance and followup, a ready supply store and receipt and invoice processing. Sixty-seven percent of the personnel of the Supply Department are either directly or indirectly involved in the material acquisition function. The purpose of this thesis is to examine the utilization of a computer based management information system to aid the Supply Department in the performance of those functions that provide support to the material acquisition process.

The thesis will describe the support functions as they are presently performed and review any internal or external influences on these functions prior to describing a suitable computer based management information system and its accompanying database.

II. PRESENT SYSTEM DESCRIPTION

Before presenting a computer based management information system that will support the needs of management, it is appropriate to describe the present system, i.e., functions performed, files maintained, and flow of information within the system. Figure 1.1 depicted the organizational structure of the supply department. The branches that will be focused upon throughout this thesis, along with their respective responsibilities as dictated by the Naval Postgraduate School [Ref. 1, p. 56-59], are as follows:

1. Issue/Receipt Control - responsible for the technical screening of all requisitions and issue documents, processing stock requisitions, maintaining control files of requisition transactions, processing of commercial invoices for payment, modifying purchase orders, and maintaining purchase order files.

2. Receiving and Shipping - responsible for the receipt, identification, delivery, and accountability of inbound freight, and, the identification, routing, packaging, marking, documentation, and loading of outbound freight.

Primary emphasis will be placed on the issue/receipt control branch. The receiving and shipping branch will be discussed only as to its direct interface with the functions of issue/receipt control.

Table I depicts the functions necessary to carry out these responsibilities and the delegation of responsibility to perform these functions. Each of the functions will be described below in a sufficient level of detail to allow the reader to obtain a firm grasp of the functions performed, files maintained, decisions made, and the general flow of information, but not in such detail as to confuse the reader or attempt to make him an expert in supply control procedures. In an attempt to simplify the following discussion,

TABLE I

Functional Responsibilities

FUNCTION	RESPONSIBLE BRANCH
Technical Edit and Review	I/R control
Material Acquisition	I/R control (standard stock) Purchase (non-standard stock)
Status Maintenance and Followup	I/R control
Material ID/Delivery	Receiving and Shipping
Receipt/Invoice Processing	I/R control

only the primary functions, decisions, and information flows for recurring processes and transactions will be considered. Those, for reasons expressed, which are not mentioned or are referred to only in passing have no significant bearing on this work, or are not of a frequently occurring nature. Any impact that may be involved will be discussed as needed. Figure 2.1 depicts the general flow of information, and documentation, from one function and/or process to another.

A. TECHNICAL EDIT AND REVIEW.

The primary purpose of this function is to insure that requisitions submitted to the Supply Department are in the proper format and that required information is valid. In addition, each requisition is reviewed to determine if the material falls into a category of material that requires special processing.

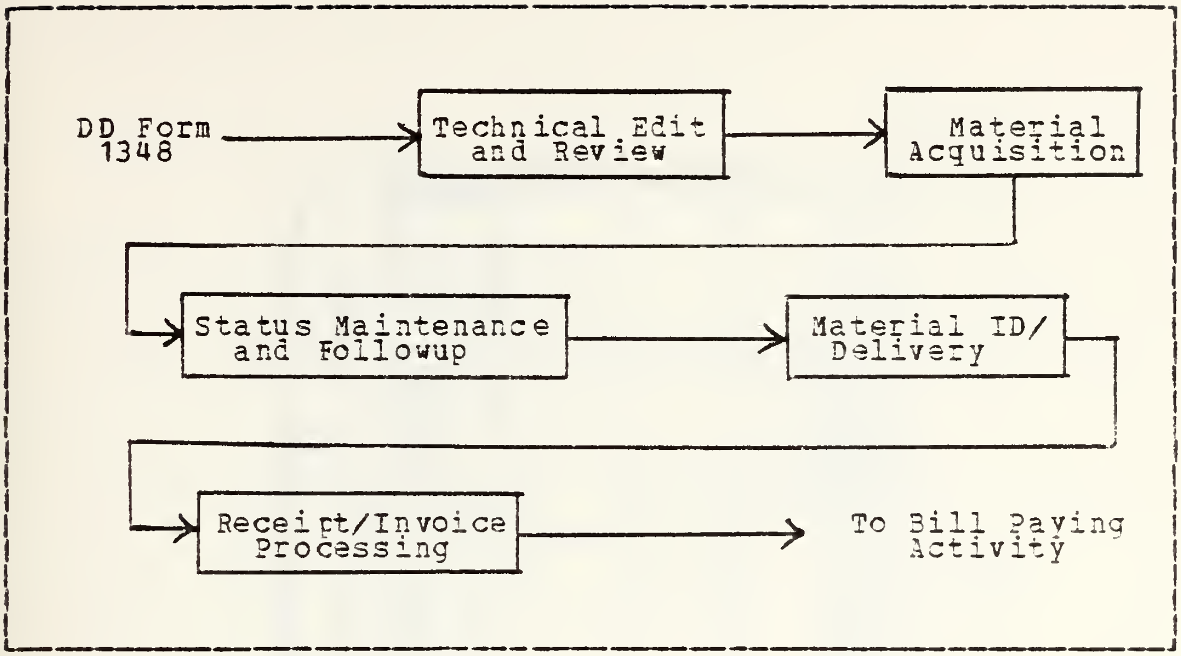
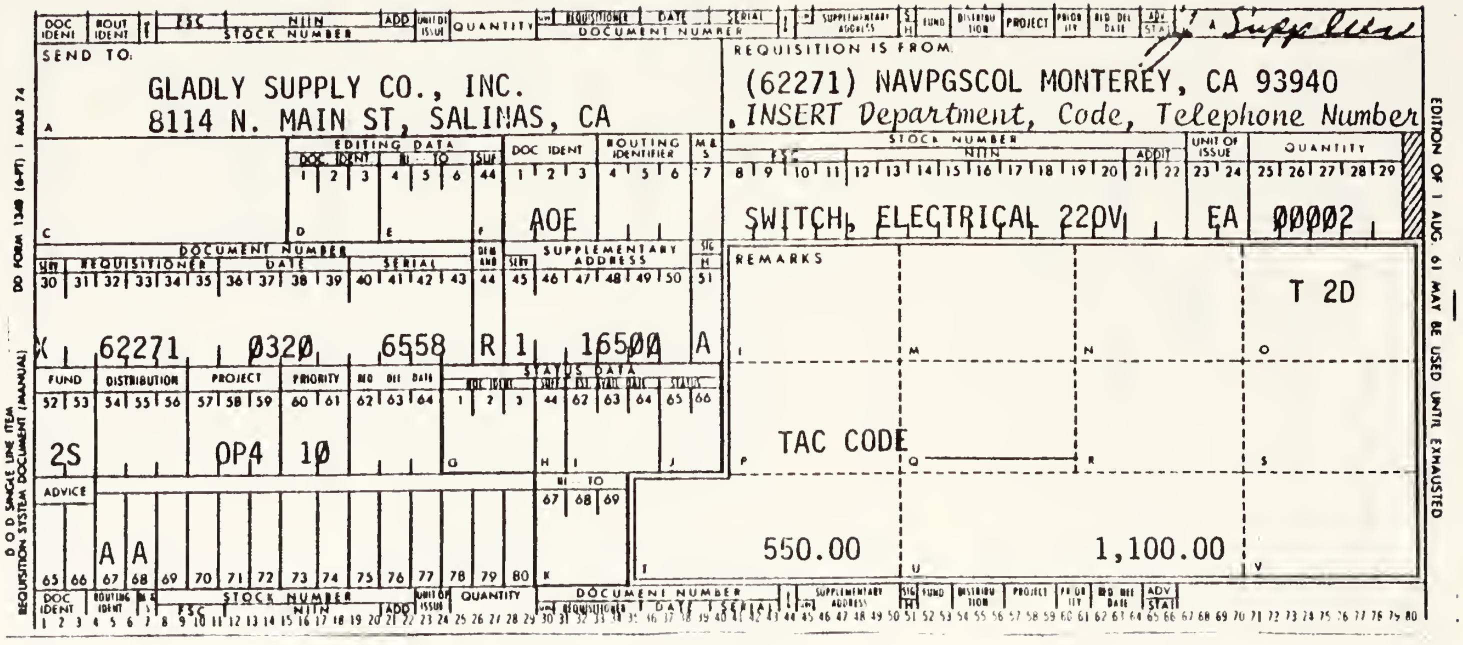

DD Form 1348
Technical Edit and Review
Material Acquisition
Status Maintenance and Followup
Material ID/ Delivery
Receipt/Invoice Processing
To Bill Paying Activity

Figure 2.1 Flowchart of Functional Processing.

There are two general types of requisitions--those which are for standard stock material and those which are not. Each type will follow a particular processing path through the Supply Department, therefore each type will be discussed separately as needed. Before proceeding it should be pointed out that prior to being received by the Supply Department, all requisitions have been reviewed by the Comptroller Department for financial obligation purposes (job order numbers are matched against serial numbers to insure only authorized obligations are permitted further processing).

All requisitions are submitted on a DD Form 1348. Figure 2.2 is an example of a completed DD Form 1348. Appendix A provides a detailed explanation of each data element. Although the example is for a non-standard stock item, it is similar to a standard stock requisition with few, minor exceptions. When received by the Supply



DD FORM 1348 (6-PT) 1 MAR 74

D O D SINGLE LINE ITEM REQUISITION SYSTEM DOCUMENT (MANUAL)

EDITION OF 1 AUG. 61 MAY BE USED UNTIL EXHAUSTED

Supplier

SEND TO:
GLADLY SUPPLY CO., INC.
8114 N. MAIN ST, SALINAS, CA

REQUISITION IS FROM
(62271) NAVPGSCOL MONTEREY, CA 93940
INSERT Department, Code, Telephone Number

DOC IDENT: AOE

STOCK NUMBER: SWITCH, ELECTRICAL 220V

UNIT OF ISSUE: EA

QUANTITY: 00002

DOCUMENT NUMBER: X 62271 0320 6558

DEMAND: R

SUPPLEMENTARY ADDRESS: 1 16500

SIG: A

FUND: 2S

PROJECT: OP4

PRIORITY: 10

ADVICE: A A

REMARKS
T 2D
TAC CODE
550.00
1,100.00

Figure 2.2 Completed DD Form 1348.

Department, requisitions are time stamped, then sorted by standard and non-standard stock.

1. Standard Stock

These requisitions are verified against the Navy Management Data List (NMDL), which resides on microfiche cards, to insure that the following information is correct for the material being requested:

1. National Stock Number (NSN)
2. Federal Supply Group and Class (FSC)
3. Cognizance Symbol (COG)
4. Unit of Issue (U/I)
5. Price
6. Quantity (QTY)

If a discrepancy is discovered, the requisition may either be corrected by issue/receipt control personnel or returned to the customer department for correction and preparation of a new requisition.

In addition, each standard stock requisition is reviewed to determine if the material being ordered falls into one of the below listed categories which require special processing and/or approval authority:

1. Photographic equipment or supplies
2. Reproduction equipment
3. Filing equipment
4. Typewriters
5. Defense Industrial Plant Equipment Center (DIPEC) material

6. Plant account property
7. Office laborsaving device equipment

Appendix B contains a brief explanation of each of the above mentioned categories.

Requisitions are also reviewed to determine if the material requested is carried by Ready Supply Store (RSS). This is accomplished by searching the RSS inventory catalog. If the material is carried, the DD Form 1348 is returned to the customer department for subsequent submission to the RSS. If not, the normal processing procedure continues. The final review made is a verification of the assignment of valid priorities to each requisition. Approval is required for all non-routine priority requisitions.

2. Non-Standard Stock

Non-standard material/service requests are similarly checked for valid and complete information. Requests are also reviewed to determine if they fall into one of the special categories of material requiring special processing and if valid priorities have been assigned. In addition, each request must be reviewed for possible cross reference to a national stock number.

For items with part numbers provided, a review of the Master Cross Reference List (MRCL) is performed. Like the NMDL, the MRCL resides on microfiche cards. If a match is made, the stock number is verified against the NMDL to determine its validity. If it is a good stock number, the request is returned to the customer department for preparation of a standard stock requisition. If a cross reference is not made or if a stock number proves erroneous based on the NMDL review, the requisition proceeds through the normal path.

For items without part numbers (primarily consumables), a review of the following publications is made for possible cross reference to a national stock number:

1. Afloat Shopping Guide
2. Federal Supply Schedules
3. General Services Administration Catalogs

Once a match is or is not made, the same procedures that were followed for part numbered items are followed in this case.

Not all items are reviewed--only those which the reviewer feels are prime candidates for cross referencing based on intuitive and subjective reasoning. Upon completion of all checks and reviews, non-standard stock requisitions are forwarded to the purchase branch with the appropriate copy placed in the outstanding purchase order file.

B. MATERIAL ACQUISITION

Although not an area being considered in this thesis, material acquisition is mentioned at this point simply to show its logical position in the procedural flow of paperwork and information in the lifecycle of a requisition. Once a standard stock requisition has completed all reviews, it is keypunched for transmittal via the Autodin network. The appropriate copies are then placed in the outstanding requisition file, others are forwarded to the receiving and shipping branch to await receipt of the material, and finally, if so required, requisition copies and other documentation are placed in the appropriate files designated for material requiring special processing.

For a complete description of these and other generally used material acquisition processing files and their purpose, see Appendix C.

Non-standard stock material/service requisitions are passed to the purchase branch for appropriate procurement action from commercial sources. The specific procurement actions taken are very complex and vital to the command but not a subject of this thesis. Note that once a requisition is identified for commercial procurement it loses its identity by document number and can only be referenced by its newly assigned purchase order number. The relevance of this point will be discussed in the status maintenance and followup section. Once all procurement actions are complete, the necessary documentation is forwarded to the receiving and shipping branch and issue/receipt control accordingly.

C. STATUS MAINTENANCE AND FOLLOWUP

Status for standard stock requisitions is received from stock points in two general formats, message or card. Many varieties of status may be reported, some of which may require action to be taken and others which do not. As status is received it is acted upon, if required, by issue/receipt personnel and appended to the DD Form 1348 residing in the outstanding requisition file along with any comments on the action taken.

Since non-standard material is procured from commercial sources as previously discussed, there normally is no vendor-generated status associated with an acquisition of this type.

Followup is normally performed when some expected event has not occured, such as:

1. No status received within a certain time period after submission of the requirement.

2. No status received within a certain time period from last receipt of status.

3. Expected delivery date has elapsed.

In both the case of standard and non-standard stock, followup is initiated by one of two methods. First, by periodic purging of the outstanding requisition and open purchase files. In this situation a review is made of status cards for standard stock items, and expected delivery dates of non-standard items with any necessary followup action initiated as required. This is a very ineffecient, time consuming method which is why it is not performed as often as it should be, given other constraints such as personnel shortages.

A second form of followup initiation is initiated by status information queries from the customer. For standard stock material the customer will provide the respective document number. The outstanding requisition is then located in the outstanding requisition file and the attached status cards are reviewed along with any previous followup attempts. Any further followup action is decided upon and taken at this time.

In status information queries for non-standard stock, the customer will provide the respective purchase order number. As was pointed out earlier, a requisition loses its identity by document number once it has been contracted out to commercial sources, and further reference to it must be by purchase order number. Armed with the purchase order number, the file may be located, reviewed and appropriate action may be taken. However, in practice, the customer may not have the purchase order number (for whatever reason). In this situation, armed solely with the document number, an exhaustive manual search is undertaken. The searcher must scan through a number of logs and files in an attempt to

cross reference these two identifying numbers. The attempt is routinely successful but obviously consumes a great deal of time.

One other type of followup is performed by issue/receipt control personnel specifically for non-standard stock requisitions. It, too, is extremely time consuming, inefficient, and burdensome. Vendors, on many occasions, will call to inquire about payment on invoices they had submitted some time in the past and have not received payment. Although issue/receipt control personnel are not responsible for or aware of the status of an invoice once it has been forwarded for payment, they can and do advise the vendor as to the date the respective invoices were forwarded for payment (Processing invoices for payment is discussed below). Normally, this would present no problems. However, usually the vendor does not possess or is not aware of the appropriate purchase order number which is required to determine this information. Armed with only an invoice number and the vendor's name, issue/receipt control personnel must again conduct a laborious search through a number of logs and files to cross reference this invoice number to the appropriate purchase order number so that the specific file may be pulled and reviewed to determine the information necessary to respond to the vendor's query. Regardless of the method used to initiate followup, or the action taken, all results are annotated and/or filed.

D. MATERIAL ID/DELIVERY

As previously indicated, copies of the necessary documentation for all incoming material are forwarded to the receiving and shipping branch where they are kept on file awaiting receipt of the material. There are two files maintained, one for each type of requisition, i.e., standard and

non-standard stock. The standard stock requisition file is maintained in julian date, serial number order. The non-standard stock requisition file is maintained by purchase order number. As material is received, the receipt papers, or packing slips in the case of commercial procurements, are pulled and matched to the filed documentation to determine which customer department to deliver the material to. Occasionally, material will be received from a commercial source with no identifying purchase order number to permit a match with the filed documentation. This situation precipitates a call to issue/receipt control personnel which begins another exhaustive search effort through numerous files, logs and other documentation in an attempt to determine the corresponding purchase order number. Once all documentation has been gathered together, the material is delivered to the appropriate customer department, signed for, and all documentation is forwarded to the issue/receipt control branch.

E. RECEIPT/INVOICE PROCESSING

The function of receipt/invoice processing is the final step in the life cycle of a requisition. However, the results of procedures followed during the processing may lead to delays in completion of the cycle. Examples of these delays and their causes will be presented during the discussion. The processing of requisitions for close-out is different for standard and non-standard stock, and therefore, each will be discussed separately.

All receipt papers and invoices are received in the Issue/Receipt Control mail room where they are time stamped and then sorted by contract type for distribution to the appropriate control personnel.

During the sorting of receipt papers, they are reviewed to determine if any material that initially fell into one of the special categories (Photographic equipment, etc.) indicated earlier has been received. If so, then the appropriate personnel are notified so that required action may be taken based on present guidelines.

1. Standard Stock

The document that enters the system at this point and causes the start of the certification process is the DD Form 1348-1. These documents are received from the receiving and shipping warehouse on a daily basis. Documents are sorted and distributed to appropriate personnel. The DD Form 1348-1 is accompanied by the original requisition (which had previously been forwarded to the warehouse). The receipt document will bear the signature of the individual receiving the material, as well as the date received, material description, quantity, etc..

Issue/receipt personnel will then proceed to verify that the material received is the material that had been ordered and in the quantity ordered. If the receipt indicates that it is a partial shipment, the requisition will be annotated as such and placed back in the outstanding requisition file to await the completed shipment. If any discrepancies exist that are determined to be the responsibility of the issuing activity such as a shorted shipment or damaged/incorrect material, then the customer department is notified to set aside the material until disposition instructions are received from the issuing activity. Control personnel will then prepare a "Report of Discrepancy" (ROD) and submit it to the issuing activity. The requisition is annotated and all documentation is filed as required. The last step is to file all paperwork regarding a particular transaction into the Completed

Requisition file, unless of course it was a partial shipment, in which case the documentation will remain in the outstanding file.

2. Non-Standard Stock

Because of the variety of ways a non-standard item may be acquired and because of the legal aspects of bill paying, the processing of this type of transaction is somewhat more diversified, complex and inevitably more critical to the command. The degree of criticality as a result of the "Prompt Payment Act" will be explained later. The following discussion will be divided by the type of acquisition action, Blanket Purchase Agreement (BPA), Civilian Universities, Maintenance/Rental, and Other. Regardless of the contract type, the receipt/invoice process normally involves three separate phases as follows:

1. File set-up
2. Receipt processing
3. Invoice processing

Each of these will be discussed separately within each contract type.

a. Blanket Purchase Agreement

A Blanket Purchase Agreement (BPA) is a method of effecting small purchases from commercial sources which provides a simplified procedure of establishing "charge accounts" with qualified sources of supply to cover anticipated small purchases of items of the same general category. It eliminates the need to issue repeated purchase orders by permiting placement of oral orders against a blanket purchase agreement, with invoicing accomplished on a monthly basis. The initial input to the file set-up phase is the

Blanket Purchase Agreement (BPA). A separate folder is established for each BPA. BPAs remain open until they are retired by the command for reasons of non-performance or by request of the vendor. The next input to this phase is the DD Form 1348 requisition. There are BPA callers (personnel authorized to place BPA calls) located in the purchase branch as well as the various customer departments. Except for minor differences, the DD Form 1348 from each source is processed similarly, therefore they will not be discussed separately but differences will be highlighted. In addition to the DD Form 1348 requisition, a continuation sheet will be attached if required. A continuation is required when more than one item is being requested from the same source. If the order is placed by a caller in a customer department, then a NPGS Form 4270 is provided, replacing the continuation sheet.

Some important information is available on requisition and is very useful in future followups and as a management information tool. The information available is as follows:

1. BPA number
2. Caller
3. Call number
4. Date order placed
5. Vendor
6. Vendor representative accepting order
7. Price

The process involved in this phase is very simple. The DD Form 1348 requisition together with any continuation sheets are placed in the BPA folder. No tangible output is produced at this stage other than a BPA folder for a particular BPA and a particular order.

The next phase begins with the input of receipt documentation from the receiving and shipping warehouse to include the original ordering document, any continuation sheets, and the packing slip. The packing slip will bear the signature of the customer department representaive receiving the material, the date the material was received, and of course the vendors description of the material and quantity received. Issue/receipt personnel will verify that the material received is identical to the material ordered and in the correct quantity. Any discrepancies will normally be dealt with by phone directly with the vendor.

The next phase begins with the input into the system of an invoice from the vendor. Vendors are required to submit invoices on a monthly basis to include billing for all material provided during that particular month. However, in practice, vendors will invoice by order. Invoices are matched against the original ordering document to insure that billing is for the correct material, in the correct quantities and at the correct price. This matching may become complex if there are substitute materials involved, or different quantities supplied in different units of issue. Again, any discrepancies are normally settled with the vendor by phone. Depending on the circumstances, the vendor will either provide correct materials and/or prepare new invoices, or a modification to the original contract will be prepared by issue/receipt personnel.

Once all documentation is in agreement, it is placed in the "Ready to Pay" file. BPA invoices are required to be paid on a monthly basis. However since most vendors submit invoices on a per order basis, invoices are processed more frequently. This process consists of first placing all documentation from the "Ready to Pay" file into document number order by BPA to ease performance of the next step. Next, a "Summary of Accounting Data" is prepared, one for each BPA with no more than five lines of accounting data unless a particular invoice covers more than five lines of accounting. In other words, an invoice should not be spread over several summaries to meet the five line caveat. Each line represents a separate line of accounting and must indicate whether this is a partial or final payment by use of "pp" or "fp", as appropriate, in the cost code.

Once final certification signatures are obtained, the necessary documentation is distributed as required. The final step involves annotating the "Historical Record of BPAs" with the following elements:

1. Call number
2. Amount
3. Date invoice forwarded for payment

This information, along with other information available in the filed documentation, will be very useful in invoice payment queries from vendors, and also in regards to the implementation and enforcement of the Prompt Payment Act, as well as for general management information and control.

b. Civilian Universities

Civilian university contracts are issued to provide postgraduate education to military officers attending civilian institutions. These contracts provide

for the payment of tuition for the respective students. The initial input into the file set-up phase is the request for establishment of an agreement with a particular university from the customer department to the purchase branch, the purchase branch request for same from Naval Supply Center (NSC) Oakland, and finally the agreement itself. Similar to a BPA this negotiated agreement remains open indefinitely. A separate folder is established for each university. The next inputs to be received are the negotiated contract accompanied by the DD Form 1348 requisition. Both the contract and the requisition represent a single student, rather than multiple students. Each student's contract with a particular university carries the same purchase order number as all other students attending that university; therefore, a unique number is assigned to each student to distinguish him from all others. This unique identification is the QE number. Each fiscal year a new DD Form 1348 and new QE number is assigned each student. Some important information is available on these documents that will be of use in later processing.

1. Document number
2. University name
3. Student name
4. Purchase order number
5. QE number
6. Time period covered
7. Amount obligated

At this point a folder is established for a particular university which includes the above information for every student attending. In addition, initial entries

are made on a "Tally Sheet" which has the purpose of keeping track of expenditures for each student. There are no receipts involved in this type of contract, therefore the next input into the system is the invoice.

Invoices are received from each university on a periodic basis depending on whether they are on a quarter or semester system. Invoices are first sent to the customer department for verification of services performed since no receipt is involved. The customer department returns the invoice after verification is completed having annotated the invoice with the respective purchase order number, document number, and signature. Upon receipt of the annotated invoice from the customer department issue/receipt control personnel annotate it with the respective QE number. At this point the tally sheet is updated to include the most recent expenditure. A review is made to insure adequate funds remain unobligated to cover this invoice. If not , additional funds are requested from the customer department and a contract modification is prepared in an amount to cover the invoice only. Once sufficient funds are on hand, the invoice is certified and forwarded for payment with annotations made of the date forwarded for payment.

The negotiated contract, like the agreement, is never closed. Only a particular student record may be closed and only upon graduation or attrition by other means. The DD Form 1348 for that particular student is moved from the outstanding to the completed purchase order file only when funds authorized on that requisition have been fully expended.

c. Maintenance/Rental

A maintenance/rental contract is established to provide for either maintenance of equipment, rental of equipment, or in some cases, both maintenance and rental

under the same contract. The primary input to the file set-up phase is the negotiated contract accompanied by the respective DD Form 1348 requisition. A separate folder for each negotiated contract is established which will include all requisitions against that particular contract. A particular contract is with one company but usually covers the maintenance or rental of various equipment, among multiple customers and/or appropriations. A "Tally Sheet" is prepared and used to keep track of expenditures by equipment. There is a separate tally sheet maintained for each individual piece of equipment. Since there are no receipts involved in this type of transaction, the next phase of invoice processing begins with the input into the system of an invoice from the vendor.

The invoice process here is similar to that of other contract types. Once the validity of the charges is certified, usually by phone with the respective customer department, the invoice is certified and forwarded for payment with annotations made of this date. Any discrepancies are normally settled by phone with the vendor. In addition, the tally sheet is updated to indicate cumulative expenditures. At any time that it appears additional funds are needed to cover the rental cost of a particular machine within a department and/or total funds for a department, that department is notified to provide those additional funds by submitting a new DD Form 1348. Control personnel will then prepare a contract modification as required.

If this is a final payment, the DD Form 1348 is pulled from the outstanding purchase order file. If it is only a partial payment (which most are until the end of the year), then the file is left open pending further invoices.

d. Other

In this category are included all other contract types not discussed above. These basically include all types of contracts for material vice services except for those acquired through a BPA.

The initial input into the file set-up phase is the negotiated contract accompanied by the corresponding DD Form 1348. This is termed a non-confirmed order. However, there are times when confirmed orders are received. Confirmed orders arrive with only the DD Form 1348, the buyer's working papers, and any continuation sheets. A purchase order will be prepared and forwarded at a later date. Each set of documentation is first logged-in, to include:

1. Purchase order number (if a confirmed order this is left blank until the contract is received)
2. Document number
3. Date file set up

A file is set up to consist of the above documentation and placed in the "Awaiting Receipt Papers" file unless it is a prepaid (e.g. subscriptions, books, etc.) in which case it goes immediately to the invoice processing stage.

The receipt processing phase begins with the input of receipt documentation from the warehouse which includes the original DD Form 1348, any continuation sheets, and a packing slip which bears the signature of the customer department representative receiving the material and the date received. Issue/receipt control personnel must determine whether the material received is the material that was ordered, in the quantity ordered and if it was a partial or complete shipment. At this point the documentation is annotated to include the results of the review and placed in the

"Awaiting Invoice" file. Upon receipt of the invoice from the vendor a similar review is made to insure that the material received and invoiced for is the material which was ordered and in the quantity ordered. The following elements are compared on the invoice and contract:

1. Vendor name and address
2. Material
3. If substitution was made
4. Quantity
5. Unit of issue
6. Unit price
7. Price extensions

Similar to BPA invoice matching procedures, this process may become very complicated if substitute material is involved and/or different units of issue are utilized by the vendor. Any discrepancies in the above elements must be brought to the attention of the vendor and either the vendor will take corrective action or issue/receipt control personnel will prepare a contract modification to insure the contract and invoice are in complete agreement. Either of these actions will result in a delay in invoice payment so appropriate comments must be made on the documentation. Once all documents are in agreement, the invoice is certified and forwarded for payment. If the invoice is for a confirmed order and the contract has not been received from the purchase branch then all related documentation is placed in the "Awaiting Purchase Order" file and the purchase branch is notified. After an invoice for final payment has been certified and forwarded for payment and, the date recorded, then the respective DD Form 1348 is pulled from the

outstanding purchase order file. If it was for partial payment only, the file is left open.

Having given the reader a descriptive overview of functions and processes performed, files maintained, decisions made, and the general flow of information in and out of the issue/receipt control branch, the following discussions of the requirements and capabilities of the proposed information system will be more meaningful.

III. PROPOSED COMPUTER BASED MANAGEMENT INFORMATION SYSTEM

The primary driving force behind any factors presented herein is the Prompt Payments Act (PPA) [Ref. 2] of 1981. The PPA was the culmination of years of chronically slow invoice processing by government agencies resulting in extremely late receipt of payment for goods or services provided by private contractors. The PPA specifies that interest penalties be imposed on federal obligations unpaid after forty-five days from receipt of the material/service or invoice, whichever is later. Interest on payments made after forty-five days will accrue from the thirty-first day and will be at a rate specified by the Department of the Treasury. Also, it is required that a record be maintained, for future reference, that will establish the date of occurrence of the important events concerned with invoice processing, i.e., date material received, date invoice received, date invoice forwarded for payment, etc.

In most situations, there is a division of responsibilities between the command requesting the material, the command contracting, receiving, and processing the invoice for payment, and the command ultimately paying the invoice. Therefore the Department of Defense, in conjunction with the Office of Management and Budget, is attempting to devise a system whereby the responsibility for any delay in the payment of an invoice may be pinpointed, and the resulting interest penalties may be appropriately applied to the responsible command. Preliminary guidance [Ref. 3] is that the receipt/invoice processing command will have three days from the receipt of the material or invoice, whichever is later, to forward the invoice for payment. The only authorized delay in this three day caveat is in the receipt of an

improper invoice. An invoice is considered improper if it is not in agreement with the original contract and it is determined that the error is on the part of the contractor. In this case, the time clock is stopped until the contractor submits a corrected invoice. When the corrected invoice is received, the three day limit begins anew.

Implementation of the PPA may conceivably have a great affect on the budgeted expenditures of the Naval Postgraduate School; therefore, any increase in efficiency to the receipt/invoice processing function and improvement in the ability to manage and control the flow of receipt/invoice documentation would be beneficial.

Of course, there exist other driving forces that, although they are obviously a direct result of the PPA, they also stand alone as primary driving forces in this or any other organizational entity. Efficiency and effectiveness are goals strived for by any organization regardless of its size. Several instances of deficiencies in both were mentioned earlier during the discussions of the present system. Each of those, as well as others, will be brought up for discussion. As was the case in the discussion of the present system, the below presentation of the proposed system will be in relation to the functions performed, i.e., that which is required to assist each function in improving efficiency and/or effectiveness and in meeting requirements set forth in the PPA. And finally, since any supply organization is customer oriented, keeping the customer happy is also an important factor to consider.

To summarize, the following objectives are the primary driving forces behind the proposed system:

1. Increase functional performance efficiency for the sake of efficiency, as well as to enhance the ability to meet the requirements set forth by the PPA.

2. Improve customer relations.

A. TECHNICAL EDIT AND REVIEW

1. Standard Stock

The two basic processes performed during this function are first, to review the NMDL to validate certain information, and second, to review the requisition to determine if the requirement is for material requiring special processing. As stated earlier, the latter process is somewhat subjective and relies on the intuitive reasoning capabilities of the processor. Therefore, this process does not lend itself to automation of any kind. The NMDL review is primarily objective in nature. It is also somewhat time consuming utilizing microfiche cards and readers. However, the NMDL is an extremely large database and the costs associated with having it available for random access purposes would be greater than any minor benefits in time and convenience that could be achieved.

2. Non-Standard Stock

Three possible processes are involved in the technical edit and review of non-standard stock. The special material category review is not presented for automation for reasons as stated above. Review of the MCRL for part numbered items would be simplified if it could be done on a desk top CRT screen or performed by an applications program. Similarly, the cross-referencing of items without part numbers would be simplified by like capabilities. As with the NMDL, these databases are extremely large and the associated costs would outweigh any derived benefits.

B. STATUS MAINTENANCE AND FOLLOWUP

In the accomplishment of this function, issue/receipt control personnel have their primary contact with the customer. Any improvement in this area will have great impact upon the relationship between the customer and the Supply Department in terms of both customer satisfaction and the reputation of the Supply Department.

1. Standard Stock

The presence of a computer based information system would assist greatly in the processing of standard stock status. By providing the appropriate media and status code on each requisition, the receipt of card format status could be insured. An applications program designed to read in these status cards and place the information directly into the database would reduce the time presently devoted to processing status.

As previously discussed, followup is a time consuming process that often times does not get accomplished adequately. Therefore, any increase in efficiency in this area is most important. In considering the two methods of initiating a followup, a system should provide improvements to each. If a followup is initiated by, say, a phone call from the customer department, the capability to instantly see the history of that particular requisition on a CRT screen would be desirable, rather than putting the caller on hold while a cumbersome hardcopy file was searched.

Under the second type of followup initiation, it was shown how a periodic review of all requisitions to determine which required followup action was inefficient when done manually. If a periodic report could be produced to indicate which requisitions required followup and/or produce the appropriate followup documents (punched cards), a more effective followup program would ensue.

2. Non-Standard Stock

As with standard stock, a system is required that would allow control personnel to review the present status of any non-standard stock requisition on a desk top CRT screen without having to fumble through mounds of documentation, and without keeping the caller unduly waiting. Also, the ability to periodically review, on an automated basis, all non-standard requisitions to determine if any have exceeded their expected delivery dates would greatly reduce the time spent manually performing this function. In addition, a great need exists to be able to cross reference document numbers to purchase order numbers. As explained earlier, customers often times do not possess the purchase order number of the requisition they are attempting to followup. Since the requisition is now solely identified by its purchase order number, a nontrivial amount of effort must be expended to cross reference these two identifying numbers. The ability to do this automatically is important to the efficient performance of this function.

Also, to alleviate the inefficiency associated with invoice payment queries from vendors, some method of cross referencing invoice numbers and the vendor name to a specific contract is required.

A final requirement would be to periodically produce a listing of all standard and non-standard stock requisitions and their present status (as well as a history of status and followup actions for each). This listing should be broken down by customer and provided to the respective customer department. This could prove to eliminate some of the many followup-related phone calls that inevitably delay control personnel in the performance of their other duties.

C. MATERIAL ID/DELIVERY

The obvious information required in this area would be some method of matching a packing slip from a particular vendor to a unique purchase order number. A listing, by vendor, of all outstanding requisitions placed with that vendor should be provided on a periodic basis.

D. RECEIPT/INVOICE PROCESSING

1. Standard Stock

Since the processing of standard stock requisitions is not under the mandate of PPA, there are no requirements stemming from its influence. From the standpoint of efficiency and/or effectiveness, the elimination of the manual review of all receipts to determine if they are material of one of the special categories would be desirable. This would reduce the time expended during the sorting process and allow the processor to concentrate his efforts on the matching procedure of receipt processing.

2. Non-Standard Stock

The receipt/invoice processing function for non-standard stock is probably the most critical function within the Supply Department. As indicated in the discussion of the PPA, the ability to effectively perform this function can save the command and its customers considerable and needless expenditure of funds in penalty and interest payments for exceeding established processing times. Thus, any improvement in the performance of this function and in the ability to properly manage it is vital.

a. General Considerations

In determining requirements for this function, consideration was given to the possibility of computerizing the matching process of invoices, against receipts, against contracts. It was decided that to do so at this time would be inadvisable. The process, although at times complicated, is not extremely time consuming. The ability to match material descriptions between several documents each of which may use somewhat different terminologies to describe the same thing is difficult enough for the human mind at times. However, the mind may use reasoning to distinguish the differences or similarities. Although the same capability may be technologically available, the costs more than likely far exceed any minimal benefits in efficiency. This of course does not preclude any future considerations to enhance the system.

b. Blanket Purchase Agreement

The primary improvement in efficiency in this area would be the automatic preparation of the 'summary of accounting data'. When the processor had completed all required reviews to verify that an invoice was proper, and was ready to certify for payment a large number of invoices he could simply call upon an applications program that would do the following:

1. Sort all invoices in document number order by BPA.
2. For each BPA subdivide into groups of five lines of accounting data, unless an invoice covers more than five lines.
3. Either physically produce the summary of accounting data or provide the necessary data elements in the format described for manual preparation.

This would greatly reduce invoice processing time and hence improve the probability of meeting the PPA requirements.

c. Civilian Universities

The processing of civilian university invoices is very straightforward and not associated with any inefficiencies. Possibly the only requirement in this area would be some assistance in keeping track of student expenditures to insure obligated funds are available for any expected invoices. Presently, whenever an invoice arrives and insufficient funds remain in the account, only those funds necessary to cover that particular invoice are requested, and the original contract is modified for that amount only. For each subsequent invoice, additional funds and further modification are necessary. A procedure that would keep track of these expenditures and notify the processor when funds are low (i.e., before the next invoice arrives), not when they are insufficient to meet an expenditure, would speed up the processing time by reducing the need for future contract modifications. For instance, an algorithm that would compute the average monthly (or quarterly) expenditures, compare this to the time remaining in the fiscal year (or the time period covered by the requisition) and, by use of an appropriate decision table, determine whether or not sufficient funds remain in the account, would be suitable.

d. Maintenance/Rental

Similar to civilian universities, a procedure is required to automatically keep track of expenditures by machine and notify the processor when funds are low, and not deficient, to preclude future contract modifications and assist the processor in the mundane record keeping involved with the respective tally sheets. An algorithm and decision table approach as presented for civilian universities could

be tailored for use in the processing of maintenance/rental invoices.

e. Other

The processing of these contract types is less complicated because there is no requirement to keep track of expenditures, i.e., contracts are one time contracts for specific material items, not annual or continuing type contracts. The process is strictly one of verifying that the invoice information is correct, making necessary contract modifications and certifying the invoice for payment. What would be useful however, would be a procedure for reviewing the awaiting receipt paper and/or awaiting invoice file to determine which records do not have purchase orders attached, and subsequently notifying the processor so timely action may be taken to preclude invoice processing delays at a later, more critical stage.

E. REPORT GENERATION

Whereas the requirements and capabilities presented thus far have been aimed at satisfying the general demand for efficiency and the mandates prescribed by PPA, the reports listed below are presented from both the perspective of efficiency and of managerial control. While the requirements and capabilities previously mentioned tend to improve the efficiency of the performance of the various functions, the reports below will provide issue/receipt control personnel at all levels with the information desired and needed to effectively perform the respective functions.

Table II lists the various reports and listings which would be required of any automated system. The frequencies provided for each report and listing are strictly a recommended assignment by the author.

TABLE II

Required Reports and Listings

REPORT	FREQUENCY
Purchase Order/Document Number Listing	semi-weekly
Volume Report	monthly
UMMIPS Report	annual
Followup Listing	monthly
Requisition Status Report	bi-weekly
Partial Shipment Report	bi-weekly
Historical Invoice Listing	weekly
Material by Vendor Listing	weekly
Delayed Invoice Report	monthly
Confirming Order Report	weekly
Daily Invoice Report	daily
Production Report	daily
Special Material Report	weekly

The capability to request any of these reports on an as needed basis is required. Each of these reports will be briefly described below.

1. Purchase Order/Document Number Listing

The Purchase Order/Document Number Listing is used by issue/receipt control personnel in followup queries when the customer department has only the document number for identification purposes. It consists simply of a list of document numbers for non-standard stock items and their respective purchase order number.

2. Volume Report

A monthly report submitted by the control division supervisor to the Supply Officer. It outlines in detail the number of requisitions submitted to the Supply Department during the previous month. Totals are first segregated by standard and non-standard stock and then within this segregation they are further divided by priority groups. Totals are given for the host and all tenant commands.

3. UMMIPS Report

The Uniform Material Movement and Issue Priority System (UMMIPS) Report is an annual report submitted by the command to the Chief of Naval Education and Training. The information required for this report is drawn from the monthly Volume Reports. It consists of a percentage of total requisitions processed by priority issue group. Although only required annually, the Supply Officer may use it more frequently to insure that the command remains within the limits established. The primary purpose of the UMMIPS reporting system is to maintain an equitable distribution of requisitions by priority issue group so as to permit the identification and preferential processing of requirements by level of criticality. Otherwise there could be no distinction between a critical and non critical requirement. Also, an excessive number of high priority requisitions could result in "starvation" of lower priority requirements, i.e., lower priority requirements will tend to be backlogged for excessive periods of time.

4. Followup Report

A report of requisitions requiring followup action. This report was discussed previously. Its intended purpose is to notify processors of those requisitions requiring

followup action based on predetermined criteria. It should consist of the document number and/or purchase order number, if any, and the last status received or action taken. This may be expanded as desired to include a complete image of the DD Form 1348 and a complete history of status and followup actions. An enhancement to this report, specifically for standard stock requisitions, would be the development of an applications program that would provide followup documentation in punched card format, or in the proper format for autodin transmission, rather than merely list the requisitions that require followup.

5. Requisition Status Report

As previously discussed, this is a bi-weekly report which lists all outstanding requisitions together with their respective status and a history of any previous followup actions. It should be segregated by customer department and disseminated in the same manner. It is provided as an information tool for the respective customer department with a secondary objective of reducing the number and frequency of followup queries from the customer departments.

6. Partial Shipment Report

A report of all requisitions which previously had a partial shipment and are awaiting a complete, final shipment. A cutoff of any desired time may be established by management. The report would be used in a fashion similar to that of the followup report and may even be incorporated in it.

7. Historical Invoice Listing

This listing would contain all invoices that have been forwarded for payment during the fiscal year. A list of all invoices received should be provided for each vendor

to include the date the invoice was received, the date it was forwarded for payment, and the amount of the invoice. The listing would be updated on a weekly basis and would provide issue/receipt control personnel with a more efficient and convenient method of cross referencing invoice numbers to purchase order numbers in an effort to answer vendor's queries on invoice payments.

8. Material by Vendor Listing

A listing, by vendor, of all outstanding orders with that vendor. Additional information provided would be purchase order number, document number and the material ordered. This listing would allow receiving personnel to match the unidentifiable packing slips (i.e., no purchase order number provided) with the filed documentation to determine which customer department to deliver to.

9. Delayed Invoice Report

A report indicating which non-standard stock requisitions have had receipt papers received (along with the material) over 45 days ago (an arbitrary figure which may be changed by management). The primary purpose of this report would be to assist in purging the files of overaged requisitions in an effort to keep the files at a manageable level.

10. Confirmed Order Report

This report was discussed previously and is used to indicate those outstanding requisitions in the Awaiting Invoice file that still do not have a prepared contract. This report can be expanded to include requisitions in the Awaiting Receipt Papers file as well. Its purpose is to reduce the possible delay in processing an invoice that is caused by lack of a prepared contract when the invoice is received. It should consist of the purchase order number, vendor, and the material ordered.

11. Daily Invoice Report

A daily report indicating all invoices that have been received but not processed. It should be broken down by processor and within each processor by invoice age (i.e., the number of days since the invoice or the receipt papers were received, as appropriate). This report would be used as a daily reminder of which invoices should be processed first. It should consist of the invoice number, purchase order number, and vendor.

12. Productivity/Backlog Report

A report which provides the manager/supervisor a detailed breakdown of the productivity and backlog status of each processor. Table III indicates the various measurements of productivity and backlog that may be useful. Any of these measurements may be expressed as integers, or as a percentage of totals, or both.

It should be pointed out that due to the characteristics of processing different types of contracts, the user of such a report must be careful when comparing the information presented. For instance, processing one hundred BPA invoices may not be of the same magnitude of difficulty as processing one hundred maintenance/rental invoices or any other invoice. Unless a method can be developed to normalize the statistics presented, the user must rely on his subjective judgements and experience.

13. Special Material Report

A weekly report which highlights, for all material requiring special processing, what is presently on order, and its respective status. It also provides information as to the receipt of any of this material since the last report, to include the appropriate customer department

TABLE III

Productivity (P)/Backlog (B) Measurements

TYPE	CATEGORY	FORMAT
B	Awaiting Receipt Papers	Integer/%
B	Awaiting Invoices	Integer/%
B	Invoices Pending (by age)	Integer/%
P	Invoices Processed this Period	Integer/%
P	Cumulative Invoices Processed	Integer/%
P	Receipts Processed this Period	Integer/%
P	Cumulative Receipts Processed	Integer/%

retaining custody. The purpose of this report is to facilitate the effective control of this special material and provide an audit trail from the initial placing of the order to the receipt and custody of the material by the cognizant customer department. The report should be segregated by type of material or output as unique, individual reports. In any event, dissemination to cognizant personnel for appropriate action is necessary.

F. THE DATABASE

Having presented the computer-based information system with the types of reports and capabilities desired it is now time to describe the database which would be required to support the proposed system. The database is perhaps the most critical element of any information system.

To be effective, it must contain relevant and up to date information. In order to provide the capabilities desired of the proposed system, what information is needed, where is it available, and how should it be stored and displayed are questions to be answered in the remainder of this chapter.

1. Contents, Availability and Storage

Figure 3.1 is the user's view, or the logical representation of the database. A single arrow point denotes a one-to-one relationship and a double arrow point denotes a one-to-many relationship. For example, there is a one-to-one relationship between requisition and purchase order but a one-to-many relationship between purchase order and requisition. What this implies is that each requisition may have, at the most, one purchase order associated with it. However, each purchase order may represent many requisitions. The relationship denoted between requisition and material mean that each requisition may have associated with it many individual material items but a particular material item will have only one requisition. To expand one final step, a single purchase order could possibly represent many requisitions, each one of which could represent many individual material items.

Each block in figure 3.1 will include several individual fields each of which will contain a specific data element. Figure 3.2 shows the different data elements/fields residing in the respective blocks. Each data element is listed below within groups which are segregated by their initial entry point. The initial entry point is that point where the information first enters the system from either an outside source or internally generated. It is at this point where the information should be captured and input into the database. For purposes of this discussion, the system environment is defined as the issue/receipt control branch; any

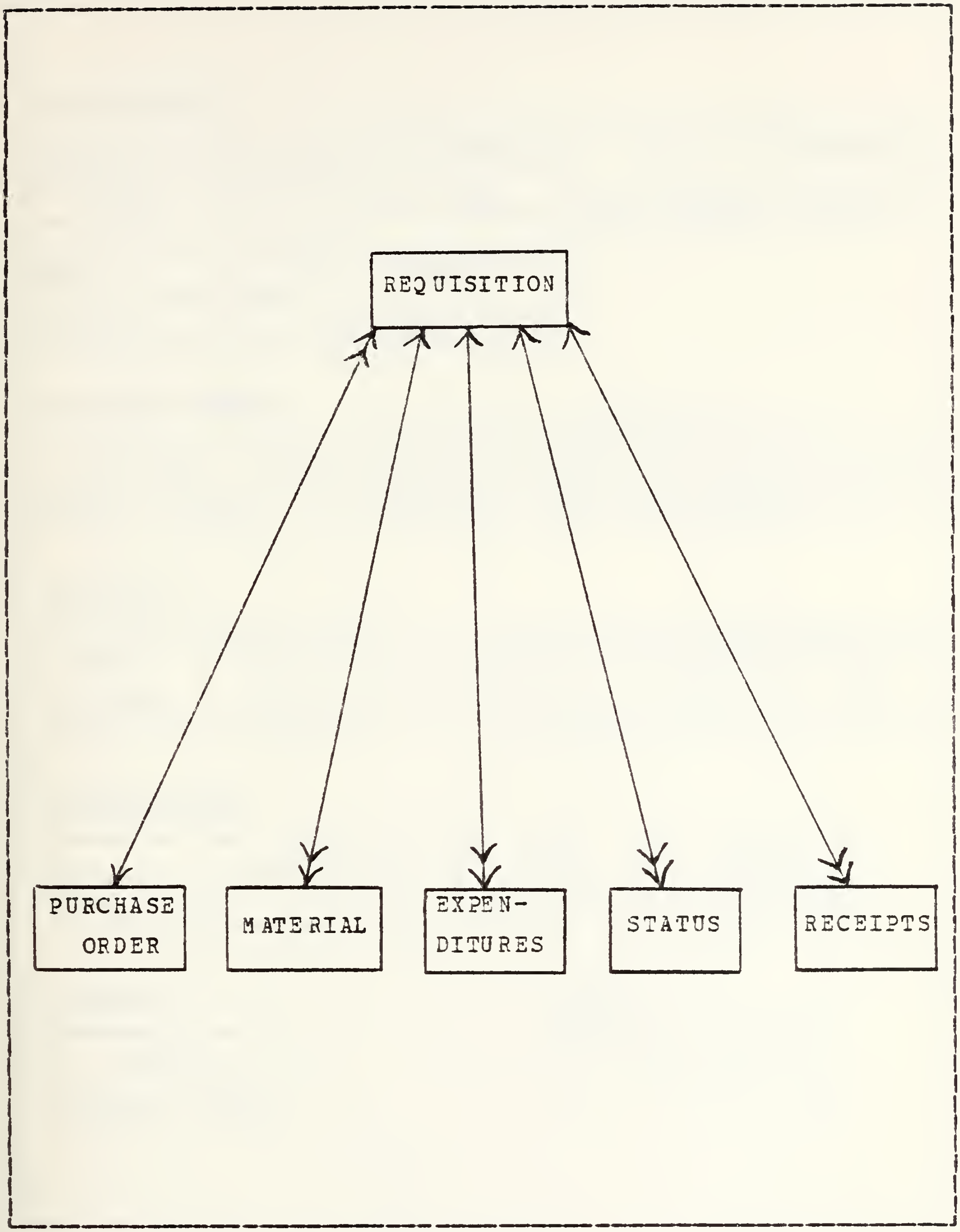


Figure 3.1 Logical Database Representation.

REQUISITION

REQUISITION NUMBER	PRIORITY	ACCOUNTING DATA	BPA CALL NUMBER	CUSTOMER CODE	TOTAL COST	COMPLETED	SPECIAL MATERIAL FLAGS

PURCHASE ORDER

PURCHASE ORDER NUMBER	VENDOR	TOTAL COST	CONTRACT TYPE	FINAL PAYMENT	PROCESSOR

MATERIAL

NOMEN-CLATURE	UNIT OF ISSUE	QUANTITY	UNIT PRICE	EXTENDED PRICE	SERIAL OR QE #

EXPENDITURES

INVOICE NUMBER	AMOUNT	DATE RECEIVED	DATE FORWARDED

RECEIPTS

MATERIAL RECEIPT DATE

STATUS

STATUS/COMMENTS

Figure 3.2 Data Elements by Block.

other branch of the supply department is considered outside of this system. Data would be input on-line from CRT terminals at the point of entry.

The following data elements are available on the DD Form 1348 with initial entry at the technical edit and review desk.

1. Requisition number (UIC, Julian date, serial number)
2. Priority
3. Customer Code
4. Total cost (for requisition)
5. Nomenclature/Student name/Machine model
6. Unit of issue
7. Quantity
8. Unit price
9. Extended price
10. Machine serial number
11. Special material flag

The determination and assignment of special material flags should be made at the technical edit and review desk. The flags will be set so that proper notification may be made to the appropriate office when items are received. There will be flags for each category of special material as required.

The following information is available from either the purchase order or associated DD Form 1348 when they arrive from the purchase branch and into the file set-up phase of receipt/invoice processing:

1. Purchase order number (year, type, number)
2. Total cost (for purchase order)
3. Vendor
4. Accounting data (appropriation and subhead, object class, bureau control number, authorized accounting activity, transaction type, job order number, cost code)
5. Call number (in the case of a BPA)

6. QE number (in the case of civilian universities)
7. Contract type (1,2,3, or 4 for BPA, Civilian university, Maintenance/Rental, or other)
8. Processor code

In addition, at the time of entry into the file set-up phase any corrections to the material record (nomenclature, price, etc.) necessitated as a result of procurement actions, may be made. Also, the processor code may be generated and assigned at this point. The processor code identifies the particular issue/receipt control individual responsible for the receipt and invoice processing associated with that particular record. Its purpose is to allow for the monitoring of the productivity and backlog status of individual processors.

The date material is received is available from the receipt papers received from the receiving and shipping branch. The entry point is the receipt processing clerk. Associated with this data element is the 'completed' field. A 'yes' in this field denotes that no further material receipts are expected for this document number (i.e., all material has been received). A blank field denotes either no material received or a partial receipt. Assignment is made by the receipt processing clerk.

The invoice number, date-received, date-forwarded, and amount fields of the expenditure information block are available on the respective invoice, and the entry point is the invoice processing clerk.

The final payment field is assigned by invoice processing personnel upon processing the final payment for a particular purchase order. A blank field denotes partial payment only and the record should remain open.

Finally, status for standard stock enters at issue control. Status for non-standard stock requisitions enters at the receipt/invoice processing section. The status field

is a fixed length field which shall provide status in semi-coded form. The field may be made long enough to include brief comments as to information on returned invoices. This would be useful in invalidating PPA violation allegations.

There are many ways data may be stored, e.g. on tape, disk or drum. Data may be processed and retrieved sequentially or randomly. There are commercial file and database systems to choose from that can provide many desirable features. Choices are dependent on hardware and funds available. The proposed system should ultimately have random access capabilities specifically for the purpose of handling status inquiries from both customer departments and vendors. To provide random access will require disk or drum secondary storage mediums. The proposed system is relatively uncomplicated and is designed with one primary file. As will be shown in the next chapter, armed with an elementary knowledge of COBOL, and the features offered by the command's IBM-3033 system, a very effective and most useful production system may be developed locally. The next section will provide a prototype system which utilizes WATBOL, a COBOL language compiler which has available the report writer features of COBOL.

IV. A PROTOTYPE SYSTEM

A prototype system is a slimmed-down version of a full production system. That is, it provides just a sampling of the features of a complete system. The prototype offered here will provide a sample of the types of reports that can be expected of a fully implemented system. After presentation of the protctype, a brief discussion of any additional features that are available and would be part of a full production system will be presented.

The database utilized in this prototype is a modified version of the production system database. The database is shown as the data division of a COBOL program in Appendix D. Not all data elements are included - only those required for the reports presented in this prototype. Also, certain segments of data (the blocks referred to in the logical representation) are repeated a minimum number of times for simplicity. For instance, the expenditures block is repeated only 5 times, where in reality it may be repeated 12 times to accomodate Maintenance/Rental contracts. There are 103 records in the prototype database, all of which are fictional.

The reports selected to be represented in this prototype are probably the most important to the efficient operation of the issue/receipt control branch and in providing management control information in monitoring PPA effectiveness. The Purchase Order/Document Number Cross Reference Listing, the Historical Invoice Listing, and the Material by Vendor Listing all provide some form of cross referencing that will reduce the time inefficiently consumed in exhaustive manual searches to determine specific types of information. The Daily Invoice Report provides management with a monitoring

tool to keep track of invoices that require immediate attention so as to preclude any violations of the PPA. The Requisition Status Report provides customer departments with the status of their requisitions which in turn may reduce the number of status inquiries which are presently made of issue/receipt control personnel. And finally, the Volume Report provides the Supply Officer with information as to the volume of work and productivity of his department. Examples of these reports are in Appendix E. Appendix F contains the respective COBOL report sections and procedure divisions utilized to produce the reports.

V. CONCLUSIONS

This thesis has presented a descriptive overview of the functions performed by the issue/receipt control, and receiving and shipping branches. It has discussed the impact of the Prompt Payment Act and the importance of taking steps to improve the efficiency and effectiveness within these areas. A proposed computer-based information system was described including various management reports and listings, as well as a description of the database required to support the proposed system. Finally, a prototype system was described and presented with the accompanying divisions to be used in a COBOL applications program.

The prototype was presented utilizing COBOL for a specific reason. COBOL is a programming language similar to English, used for commercial data processing. There are features in COBOL that make for relatively simple expansion of the prototype into a full production information system. The report writer which was used in the prototype provides excellent report writing capabilities. There are features for handling direct file organizations such as indexed sequential access method (ISAM) which would allow for both sequential and random access by primary or secondary keys.

After a study and review of the prototype system introduced in the previous chapter, as well as the capabilities of the IBM-3033 system and the features of COBOL, the remainder of the proposed system may be implemented to include any additional applications deemed appropriate as a result of the review. For instance, by utilizing the direct file organization handling features, relatively simple applications programs may be prepared which would allow

random access to individual document number or purchase order number records and permit interactive query and response at terminals located by each receipt/invoice processing clerk. The report writer may be utilized to make these interactive sessions more understandable by formatting responses in more meaningful ways. To accommodate low skill level personnel, on-line input sessions may be developed utilizing interactive interogation by the terminal, with appropriate responses by the user. Another possible on-line input session which may be developed is to use screen formated forms (DD Form 1348, contract), whereby the user would enter the appropriate information from the source documents directly into the respective areas on the screen. The exact method chosen will be based primarily on management's decision as to what skill or knowledge level of employee will perform data entry. Applications may also be developed to purge the master file of records which have had final payments made in the case of non-standard stock requisitions, or in the case of standard stock requisitions, when all quantities of the material have been received. There may be many more possible applications which have not been considered in this thesis and they will be eventually brought to surface as a direct result of the implementation and use of the first system put into production. The expansion of the prototype system into a full-blown production system complete with users manual, maintenance manual, etc. would be an excellent follow-on study to this thesis and would be suitable for either computer systems or computer science students. The efforts expended would be very beneficial to the Supply Department, the Naval Postgraduate School, as well as any other commands supported by the School.

APPENDIX A

DD FORM 1348 DATA ELEMENT DESCRIPTION

Data Block A (Send To)

This block identifies the source of supply for the material/ service being requested.

Data Block B (Requisition is from).

This block identifies the customer department, command, or any other authorized requestor.

Data Block C.

This block identifies, in abbreviated form, the nomenclature of the requested material/service.

Card Column 1-3 (Document Identifier)

A three character, alpha-numeric code which identifies the type of request; e.g., standard stock, non-standard stock.

Card Column 4-6 (Routing Identifier)

A three character, alpha-numeric code which identifies the activity to which the requisition will be submitted.

Card Column 7 (Media and Status)

A single, alphabetic character which identifies the format/type of status desired by the requesting activity and at what frequency rate.

Card Column 8-22 (Stock Number).

These columns contain the national stock number of the material being requested, if standard stock. If for non-standard stock then this area contains the nomenclature of the desired material/service.

Card Column 23-24 (Unit of Issue).

A two character alphabetic code indicating the appropriate unit of issue.

Card Column 25-29 (Quantity). Indicates desired quantity of the material being requisitioned. The quantity should coincide with the unit of issue to insure the resultant material receipt is for the correct amount.

Card Column 30-43 (Document Number).

This is a unique identifier code which designates this requisition is originating at a single source and for a particular item of material/service. It consists of the Unit Identification Code of the command desiring the material, the Julian date the requisition was prepared, and a sequentially assigned serial number (particular series of numbers are assigned to departments by the Comptroller each fiscal year).

Card Column 44 (Demand).

A single, alphabetic character designating this particular request as a recurring (R) or nonrecurring (N) demand for this material/service.

Card Column 45 (Service).

Contains the last digit of the applicable fiscal year.

Card Column 46-50 (Supplementary Address).

Consists of a job order number as assigned by the Comptroller at the beginning of the fiscal year to each customer department and command. For financial purposes only.

Card Column 51 (Signal).

A single, alphabetic character designating whether the requisition is for chargeable material/service (A) or non-chargeable publications (D).

Card Column 52-53 (Fund).

A two character alpha-numeric code indicating how the requisition is to be funded. For non-reimbursible requisitions enter 2S, and for Appropriation Purchase Account material enter 46.

Card Column 54-56 (Distribution).

Contains the cognizance symbol for the standard stock material being requested. Left blank for non-standard stock items.

Card Column 57-59 (Project).

Identifies requisitions for specific projects or programs.

Card Column 60-61 (Priority).

Identifies the relative urgency of this requirement against standards prescribed by the Uniform Material Movement and Issue Priority System (UMMIPS).

Card Column 62-64 (Required Delivery Date).

Indicates the date that this requirement must be satisfied.

Card Column 65-66 (Advice).

A two character alpha-numeric code used to provide the supply source with special instructions applicable to the requisitioned item when considered necessary to insure appropriate supply action. There are mandatory advice codes for Mandatory Turn-in Repairable items.

Card Column 67-68 (Delivery).

Assigned by the Comptroller for financial purposes. Each customer department and command have unique delivery codes.

Data Blocks L,M,N,P,Q,R,and S (Remarks).

May be used to provide additional information concerning this request, as considered necessary. Should include Transportation Account Code for non-standard stock requisitions.

Data Block O (Expense).

Contains financial data required by the Comptroller.

Data Block T (Remarks).

Contains the unit price.

Data Block U (Remarks).

Contains the extended price.

APPENDIX B

SPECIAL MATERIAL CATEGORY DESCRIPTIONS

Photographic Equipment or Supplies

Any requirement for photographic equipment must bear the approval signature of an authorized representative of the Educational Media Department (EMD). This individual verifies that the equipment being requested is not part of the photographic inventory. If it is, the requisition is normally cancelled and the requestor is directed to use the item in photographic inventory. Photographic supplies are normally provided by EMD. An authorized signature, therefore, indicates that the item being requested is not available through EMD and procurement is authorized.

In addition, the Chief of Naval Education and Training (CNET) authorizes the expenditure of funds for photographic equipment, without prior approval, in an annual amount of $2500. Once this ceiling has been reached any additional requests must be approved by CNET. Therefore, a running balance must be maintained for photographic equipment expenditures.

Finally, photographic equipment may also be considered plant account material. See Plant Account for criteria.

Reproduction Equipment

All requests for the lease or purchase of reproduction equipment must have been approved, and have been issued an authorization number, by the Navy Publication and Printing Service Office. Any requisition lacking this authorization number is rejected.

Filing Equipment

There has been an indefinite moratorium placed on the acquisition of new filing equipment. Requests for waivers must be accompanied by adequate justification and ultimately must be approved/disapproved by CNET. Any requisition lacking CNET approval is rejected.

Typewriters

In recent years there has been an inordinate number of new typewriters procured on a government-wide basis. More strict controls on their acquisition have been implemented. The Navy Postgraduate School has placed acquisition approval authority in the hands of the Supply Officer. Any requisition for typewriters lacking the approval of the Supply Officer is rejected.

Plant Account Property

Plant account property is Navy-owned personal property of a capital nature located in activities comprising the Naval Shore Establishment Of primary concern to the supply department is class 3 and 4 (DIPEC) plant property. Class 3 plant property must have an initial estimated or actual cost in excess of $1000.00, have an expected life of at least two years, and not be consumed in performance of its work. Examples are electronic typewriters, word processors, Automated Data Processing Equipment (ADPE), etc. All plant property (including DIPEC) must be strictly acounted for and controlled. Although plant property accounting is the responsibility of the comptroller department, the supply department, having the responsibility of acquisition and receipt, must be able to identify this material and notify the comptroller department of its receipt so proper accounting actions may be taken.

Defense Industrial Plant Equipment Center Material (DIPEC)

DIPEC material is generally categorized as class 4 plant account property. Also called industrial plant equipment, its initial cost must exceed $1000.00 and it is generally used for altering the physical, chemical, or electrical properties of material. Examples are large industrial lathes, drill presses, and grinders usually found in public works shops or shipyards. All requests for DIPEC material must first be submitted to the Defense Industrial Plant Equipment Center (DIPEC). DIPEC screens all excess material lists for availability. If the item is available it is made available for the transportation costs only. The command may reject the offer with adequate justification. If the item is not available from excess or if it is rejected, DIPEC will provide approval authority to acquire the item through normal procurement channels. Any request for DIPEC equipment must have been approved by DIPEC prior to any procurement action being taken.

Office Laborsaving Device Equipment

Typewriters, calculators (excluding handheld), adding machines, dictating/transcribing machines, microfiche equipment, etc. are considered office laborsaving devices. There are strict guidelines as to the acquisition, custody, maintenance, replacement and turn-in of these devices. Appropriate approval authority is required for any acquisition. Requisitions lacking approval authority are rejected. The Supply Officer is tasked with the management and custody control of all office laborsaving device equipment.

APPENDIX C

MATERIAL ACQUISITION PROCESSING FILES

Outstanding Requisition File

This file is maintained for outstanding standard stock requisitions only. It consists of the original DD Form 1348 and associated keypunched card. Each requisition has appended to it all associated status cards and followups. It is maintained in document number order, by fiscal year.

Outstanding Purchase Order File

Similar to the outstanding requisition file in that it represents all outstanding requisitions for non-standard stock items. However, a history of status and followup action is not maintained here but rather in the respective receipt processing files. It is maintained primarily as a starting reference point when attempting to cross document numbers to purchase order numbers, as well as a single source file of outstanding non-standard requirements.

Completed Requisition File

Maintained for standard stock items. When requisitions are completed they are pulled from the outstanding requisition file and placed in this file with the appropriate receipt papers attached. It is an historical record of standard stock transactions.

Photographic Approval Authority File

This file consists of all requisitions (or copies of) for photographic equipment which is awaiting approval authority from CNET. Approval authority is required because the $2500 ceiling has been exceeded.

Outstanding DIPEC File

This file consists of requisitions for DIPEC equipment which are awaiting a formal reply to an excess screen availability from DIPEC. Included with each requisition is a DD Form 1419 which is the formal, excess request document.

Completed DIPEC File

An historical record of DIPEC acquisition instruction for all DIPEC equipment requests.

Report of Discrepancy (ROD) File

A file of ROD reports and associated requisition and receipt papers for material which has been received damaged, erroneous quantities, incorrect material, etc.

Awaiting Receipt Papers File

For non-standard stock procurements, this file consists of the DD Form 1348, any continuation sheets, and in most cases, the negotiated contract. As the name implies, this file is for requirements which remain outstanding.

Awaiting Invoice File

Normally, once material and receipt papers are received and processed, all documentation is moved to this file indicating all processing is complete with the exception of having the invoice.

Awaiting Purchase Order File

For confirmed orders which have been received and have been invoiced but have no supporting documentation. This file should be kept at minimal size. Every record in it has the potential of exceeding the Prompt Payment Act (PPA) guidelines.

Ready To Pay File.

A file consisting of requirements which have been satisfied and have all the documentation required (invoice, receipt papers, negotiated contract, etc.) to be certified and forwarded for payment.

Historical Demand File

Contains a copy of all DD Form 1348's for standard stock requisitions. Maintained in National Stock Number order. Its purpose is to keep an historical record of demand for standard items so that decisions may be made as to whether or not to bring an item into stock based on its frequency of demand.

APPENDIX D

PROTOTYPE IDENTIFICATION, ENVIRONMENT AND DATA DIVISIONS

```
IDENTIFICATION DIVISION.
PROGRAM-ID. THESIS.
AUTHOR.  THADDEUS F. ZYCHOWSKI.
DATE-WRITTEN.  OCTOBER 1982.
DATE-COMPILED.  OCTOBER 1982.
SECURITY.  NONE.
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER.  IBM-370.
OBJECT-COMPUTER.  IBM-370.
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT MASTER-FILE ASSIGN TO UT-S-OLDMAST.
    SELECT REPORT-FILE ASSIGN TO UT-S-SORTOUT.
    SELECT PODOXREF-FILE ASSIGN TO UT-S-PURCHASE.
    SELECT HISTORY-FILE ASSIGN TO UT-S-HISTORY.
    SELECT MATERIAL-FILE ASSIGN TO UT-S-MATERIAL.
    SELECT INVOICE-FILE ASSIGN TO UT-S-INVOICE.
    SELECT REQN-FILE ASSIGN TO UT-S-REQN.
    SELECT VOLUME-FILE ASSIGN TO UT-S-VOLUME.
DATA DIVISION.
FILE SECTION.
FD  MASTER-FILE LABEL RECORDS ARE STANDARD.
01  MASTER-RECORD.
    02 DOCNUM.
       03  SERVCODE                      PIC X.
       03  UIC                           PIC X(5).
       03  JDATE                         PIC X(4).
       03  SERNUM                        PIC X(4).
    02 CUST-CODE                         PIC X(3).
```

```
    02 STK-NUM.
       03  FSC                               PIC X(4).
       03  NCB                               PIC X(2).
       03  NIIN                              PIC X(7).
    02 MATERIAL OCCURS 5 TIMES.
       03  NOMEN                             PIC X(10).
       03  UISSUE                            PIC X(2).
       03  QTY                               PIC X(5).
       03  UPRICE                            PIC 99999V99.
       03  EXTPRICE                          PIC 99999V99.
       03  SERQE                             PIC X(9).
    02 PRI                                   PIC X(2).
    02 TOTCOST                               PIC 99999V99.
    02 BPACALLNR                             PIC X(4).
    02 PONUMBER.
       03  YEAR                              PIC X(2).
       03  PCODE                              PIC X.
       03  PNUMBER                           PIC X(4).
    02 CONTYPE                               PIC X.
    02 PRCCODE                               PIC X.
    02 VENDOR                                PIC X(20).
    02 MATL-RECVD OCCURS 3 TIMES.
       03  RDATE                             PIC X(4).
    02 COMPL                                 PIC X(3).
    02 INVOICE OCCURS 5 TIMES.
       03  INUMBER                            PIC X(6).
       03  AMOUNT                            PIC 99999V99.
       03  DATE-RECVD                        PIC X(4).
       03  DATE-FWD                          PIC X(4).
    02 STAT OCCURS 5 TIMES.
       03  PSTAT                             PIC X(30).
FD  REPORT-FILE LABEL RECORDS ARE STANDARD.
01  REPORT-RECORD.
    02 DOCNUM.
       03  SERVCODE                          PIC X.
```

```
   03  UIC                             PIC X(5).
   03  JDATE                           PIC X(4).
   03  SERNUM                          PIC X(4).
02 CUST-CODE                           PIC X(3).
02 STK-NUM.
   03  FSC                             PIC X(4).
   03  NCB                             PIC X(2).
   03  NIIN                            PIC X(7).
02 MATERIAL OCCURS 5 TIMES.
   03  NOMEN                           PIC X(10).
   03  UISSUE                          PIC X(2).
   03  QTY                             PIC X(5).
   03  UPRICE                          PIC 99999V99.
   03  EXTPRICE                        PIC 99999V99.
   03  SERQE                           PIC X(9).
02 PRI                                 PIC X(2).
02 TOTCOST                             PIC 99999V99.
02 BPACALLNR                           PIC X(4).
02 PONUMBER.
   03  YEAR                            PIC X(2).
   03  PCODE                           PIC X.
   03  PNUMBER                         PIC X(4).
02 CONTYPE                             PIC X.
02 PRCCODE                             PIC X.
02 VENDOR                              PIC X(20).
02 MATL-RECVD OCCURS 3 TIMES.
   03  RDATE                           PIC X(4).
02 COMPL                               PIC X(3).
02 INVOICE OCCURS 5 TIMES.
   03  INUMBER                          PIC X(6).
   03  AMOUNT                          PIC 99999V99.
   03  DATE-RECVD                      PIC X(4).
   03  DATE-FWD                        PIC X(4).
02 STAT OCCURS 5 TIMES.
   03  PSTAT                           PIC X(30).
```

```
FD  PODOXREF-FILE REPORT IS PODOXREF-REPORT,
    LABEL RECORDS ARE STANDARD.
FD  INVOICE-FILE REPORT IS INVOICE-REPORT,
    LABEL RECORDS ARE STANDARD.
FD  HISTORY-FILE REPORT IS HISTORY-REPORT,
    LABEL RECORDS ARE STANDARD.
FD  MATERIAL-FILE REPORT IS MATERIAL-REPORT,
    LABEL RECORDS ARE STANDARD.
FD  REQN-FILE REPORT IS REQN-REPORT,
    LABEL RECORDS ARE STANDARD.
FD  VOLUME-FILE REPORT IS VOLUME-REPORT,
    LABEL RECORDS ARE STANDARD.
WORKING-STORAGE SECTION.
77  MORE-DATA              PIC X(3) VALUE IS 'YES'.
77  I                      PIC 999  VALUE IS ZERO.
77  COUNTA                 PIC 999  VALUE IS ZERO.
77  COUNTB                 PIC 999  VALUE IS ZERO.
77  COUNTC                 PIC 999  VALUE IS ZERO.
77  COUNTD                 PIC 999  VALUE IS ZERO.
77  COUNTE                 PIC 999  VALUE IS ZERO.
77  COUNTF                 PIC 999  VALUE IS ZERO.
77  COUNTG                 PIC 999  VALUE IS ZERO.
77  COUNTH                 PIC 999  VALUE IS ZERO.
77  COUNTI                 PIC 999  VALUE IS ZERO.
77  COUNTJ                 PIC 999  VALUE IS ZERO.
77  COUNTK                 PIC 999  VALUE IS ZERO.
77  COUNTL                 PIC 999  VALUE IS ZERO.
77  COUNTAD                PIC 999  VALUE IS ZERO.
77  COUNTED                PIC 999  VALUE IS ZERO.
77  COUNTCD                PIC 999  VALUE IS ZERO.
77  COUNTDD                PIC 999  VALUE IS ZERO.
77  COUNTED                PIC 999  VALUE IS ZERO.
77  COUNTFD                PIC 999  VALUE IS ZERO.
77  COUNTGD                PIC 999  VALUE IS ZERO.
77  COUNTHD                PIC 999  VALUE IS ZERO.
```

```
77  COUNTID                  PIC 999  VALUE IS ZERO.
77  COUNTJD                  PIC 999  VALUE IS ZERO.
77  COUNTKD                  PIC 999  VALUE IS ZERO.
77  COUNTLD                  PIC 999  VALUE IS ZERO.
```

APPENDIX E

REPORT AND PROCEDURE SECTIONS.

PURCHASE ORDER/DOCUMENT NUMBER CROSS REFERENCE LISTING

```
REPORT SECTION.
RD  PODOXREF-REPORT
    PAGE LIMIT IS 55 LINES,
    HEADING 23, FIRST DETAIL 20,
    LAST DETAIL 48, FOOTING 51.
01  TYPE IS REPORT HEADING.
    02 LINE NUMBER IS 22.
       03 COLUMN 20 PIC X(56) VALUE IS
      'PURCHASE ORDER / DOCUMENT NUMBER
       CROSS REFERENCE LISTING'.
01  PAGE-HEAD TYPE IS PAGE HEADING.
    02 LINE NUMBER IS 24.
       03 COLUMN 20 PIC X(35) VALUE IS
          'OUTSTANDING NON-STANDARD STOCK ONLY'.
    02 LINE NUMBER IS 26.
       03 COLUMN 26 PIC X(15) VALUE IS
          'DOCUMENT NUMBER'.
       03 COLUMN 50 PIC X(21) VALUE IS
          'PURCHASE ORDER NUMBER'.
    02  LINE 6.
01  DOCUMENT-NUMBER TYPE IS DETAIL.
    02 LINE NUMBER PLUS 1.
       03 COLUMN 25 PIC X(1) SOURCE IS
          SERVCODE OF REPORT-RECORD.
       03 COLUMN 26 PIC X(5) SOURCE IS
          UIC OF REPORT-RECORD.
       03 COLUMN 31 PIC X(1) VALUE IS '-'.
```

```
          03 COLUMN 32 PIC X(4) SOURCE IS
             JDATE OF REPORT-RECORD.
          03 COLUMN 36 PIC X(1) VALUE IS '-'.
          03 COLUMN 37 PIC X(4) SOURCE IS
             SERNUM OF REPORT-RECORD.
          03 COLUMN 57 PIC X(2) SOURCE IS
             YEAR OF REPORT-RECORD.
          03 COLUMN 59 PIC X(1) VALUE IS '-'.
          03 COLUMN 60 PIC X(1) SOURCE IS
             PCODE OF REPORT-RECORD.
          03 COLUMN 61 PIC X(1) VALUE IS '-'.
          03 COLUMN 62 PIC X(4) SOURCE IS
             PNUMBER OF REPORT-RECORD.
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
    PERFORM GENERATE-REPORT UNTIL MORE-DATA IS EQUAL
    TO 'NO'.
    PERFORM CLEANUP.
    STOP RUN.
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT PODOXREF-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE PODOXREF-REPORT.
GENERATE-REPORT.
    IF COMPL OF REPORT-RECORD IS EQUAL TO SPACES
    AND NIIN OF REPORT-RECORD IS EQUAL TO SPACES
          GENERATE DOCUMENT-NUMBER.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
CLEANUP.
    TERMINATE PODOXREF-REPORT.
    CLOSE REPORT-FILE, PODOXREF-FILE.
    DISPLAY 'SUCCESSFUL END OF REPORT PROGRAM'.
```

HISTORICAL INVOICE LISTING

```
REPORT SECTION.
RD  HISTORY-REPORT
    CONTROL IS FINAL, VENDOR OF REPORT-RECORD,
    PAGE LIMIT IS 59 LINES,
    HEADING 4, FIRST DETAIL 8,
    LAST DETAIL 52, FOOTING 55.
01  TYPE IS REPORT HEADING.
    02 LINE NUMBER IS 14.
       03 COLUMN 33  PIC X(26)  VALUE IS
          'HISTORICAL INVOICE LISTING'.
01  PAGE-HEAD TYPE IS PAGE HEADING.
    02 LINE NUMBER IS 16.
       03 COLUMN 10 PIC X(27) VALUE IS
          'INVOICES RECEIVED BY VENDOR'.
01  VENDOR-HEADER TYPE IS CONTROL HEADING
    VENDOR OF REPORT-RECORD.
    02 LINE NUMBER IS PLUS 4.
       03 COLUMN 10 PIC X(7)  VALUE IS 'VENDOR:'.
       03 COLUMN 20 PIC X(20)  SOURCE IS
          VENDOR OF REPORT-RECORD.
    02 LINE NUMBER IS PLUS 2.
       03 COLUMN 14  PIC X(7) VALUE IS 'INVOICE'.
       03 COLUMN 27  PIC X(8) VALUE IS 'PURCHASE'.
       03 COLUMN 45  PIC X(4) VALUE IS 'DATE'.
       03 COLUMN 57  PIC X(4) VALUE IS 'DATE'.
    02 LINE NUMBER IS PLUS 1.
       03 COLUMN 14  PIC X(6)  VALUE IS 'NUMBER'.
       03 COLUMN 25  PIC X(12)  VALUE IS
          'ORDER NUMBER'.
       03 COLUMN 43  PIC X(8)  VALUE IS 'RECEIVED'.
       03 COLUMN 55  PIC X(9)  VALUE IS 'FORWARDED'.
       03 COLUMN 70 PIC X(6)   VALUE IS 'AMOUNT'.
```

```
01  INVOICE-INFO TYPE IS DETAIL.
    02 LINE NUMBER IS PLUS 1.
       03 COLUMN 15  PIC X(6)  SOURCE IS INUMBER
          OF REPORT-RECORD (I).
       03 COLUMN 26  PIC X(2)  SOURCE IS
          YEAR OF REPORT-RECORD.
       03 COLUMN 28  PIC X(1)  VALUE IS '-'.
       03 COLUMN 29  PIC X(1)  SOURCE IS
          PCODE OF REPORT-RECORD.
       03 COLUMN 30  PIC X(1)  VALUE IS '-'.
       03 COLUMN 31  PIC X(4)  SOURCE IS
          PNUMBER OF REPORT-RECORD.
       03 COLUMN 45  PIC X(4)  SOURCE IS
          DATE-RECVD OF REPORT-RECORD (I).
       03 COLUMN 57  PIC X(4)  SOURCE IS
          DATE-FWD OF REPORT-RECORD (I).
       03 COLUMN 67 PIC ZZ,ZZZ.99  BLANK WHEN ZERO
          SOURCE IS AMOUNT OF REPORT-RECORD (I).
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
    PERFORM GENERATE-REPORT UNTIL MORE-DATA IS EQUAL
    TO 'NO'.
    PERFORM CLEANUP.
    STOP RUN.
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT HISTORY-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE HISTORY-REPORT.
GENERATE-REPORT.
    MOVE 1 TO I.
    PERFORM CHECK-INVOICE UNTIL I = 6.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
```

```
CHECK-INVOICE.
    IF DATE-RECVD OF REPORT-RECORD (I)
    IS NOT EQUAL TO SPACES
       GENERATE INVOICE-INFO.
    ADD 1 TO I.
CLEANUP.
    TERMINATE HISTORY-REPORT.
    CLOSE REPORT-FILE, HISTORY-FILE.
    DISPLAY 'SUCCESSFUL END OF REPORT PROGRAM'.
```

MATERIAL BY VENDOR LISTING

```
REPORT SECTION.
RD  MATERIAL-REPORT
    CONTROL IS VENDOR OF REPORT-RECORD,
    PAGE LIMIT IS 66 LINES,
    HEADING 2, FIRST DETAIL 6,
    LAST DETAIL 58, FOOTING 61.
01  TYPE IS REPORT HEADING.
    02  LINE NUMBER IS 18.
        03 COLUMN 30  PIC X(25) VALUE IS
           'MATERIAL BY VENDOR LISTING '.
01  TYPE IS PAGE HEADING.
    02  LINE NUMBER IS PLUS 4.
        03  COLUMN 10 PIC X(34) VALUE IS
            'OUTSTANDING REQUISITIONS BY VENDOR'.
01  VENDOR-HEADER TYPE IS CONTROL HEADING
    VENDOR OF REPORT-RECORD NEXT GROUP IS PLUS 1.
    02  LINE PLUS 4.
        03  COLUMN 5 PIC X(7) VALUE IS 'VENDOR:'.
        03  COLUMN 15 PIC X(20) SOURCE IS
            VENDOR OF REPORT-RECORD.
```

```
    02  LINE PLUS 2.
        03  COLUMN 17 PIC X(8) VALUE IS
            'PURCHASE ORDER NUMBER'.
    02  LINE PLUS 1.
        03  COLUMN 15 PIC X(12) VALUE IS
            'ORDER NUMBER'.
        03  COLUMN 43 PIC X(15)  VALUE IS
            'DOCUMENT NUMBER'.
 01 DOCUMENT-NUMBER TYPE IS DETAIL.
    02  LINE NUMBER IS PLUS 1.
        03  COLUMN 16  PIC X(2)  SOURCE IS
            YEAR OF REPORT-RECORD.
        03  COLUMN 18  PIC X(1)  VALUE IS '-'.
        03  COLUMN 19  PIC X(1)  SOURCE IS
            PCODE OF REPORT-RECORD.
        03  COLUMN 20  PIC X(1)  VALUE IS '-'.
        03  COLUMN 21  PIC X(4)  SOURCE IS
            PNUMBER OF REPORT-RECORD.
        03  COLUMN 43  PIC X(1)  SOURCE IS
            SERVCODE OF REPORT-RECORD.
        03  COLUMN 44  PIC X(5)  SOURCE IS
            UIC OF REPORT-RECORD.
        03  COLUMN 49  PIC X(1)  VALUE IS '-'.
        03  COLUMN 50  PIC X(4)  SOURCE IS
            JDATE OF REPORT-RECORD.
        03  COLUMN 54  PIC X(1)  VALUE IS '-'.
        03  COLUMN 55  PIC X(4)  SOURCE IS
            SERNUM OF REPORT-RECORD.
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
    PERFORM GENERATE-REPORT UNTIL MORE-DATA
    IS EQUAL TO 'NO'.
    PERFORM CLEANUP.
    STOP RUN.
```

```
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT MATERIAL-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE MATERIAL-REPORT.
GENERATE-REPORT.
    IF NIIN OF REPORT-RECORD IS EQUAL TO SPACES
    AND CCMPL OF REPORT-RECORD IS EQUAL TO SPACES
         GENERATE DOCUMENT-NUMBER.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
 CLEANUP.
    TERMINATE MATERIAL-REPORT.
    CLOSE REPORT-FILE, MATERIAL-FILE.
    DISPLAY 'SUCCESSFUL END OF REPORT PROGRAM'.
```

DAILY INVOICE REPORT

```
REPORT SECTION.
RD  INVOICE-REPORT
    CONTRCL IS FINAL, PROCODE OF REPORT-RECORD,
    PAGE LIMIT IS 55 LINES,
    HEADING 2, FIRST DETAIL 6,
    LAST DETAIL 50, FOOTING 52.
01  TYPE IS REPORT HEADING.
    02  LINE NUMBER IS 16.
        03  COLUMN 26  PIC X(20) VALUE IS
            'DAILY INVOICE REPORT'.
01  PAGE-HEAD TYPE IS PAGE HEADING.
    02  LINE NUMBER IS 18.
        03  COLUMN 10 PIC X(51)  VALUE IS
            'INVOICES RECEIVED AND NOT PROCESSED,
             BY PROCESSOR'.
```

```
01  PROCESSOR-HEADER TYPE IS CONTROL HEADING
    PROCODE OF REPORT-RECORD NEXT GROUP IS PLUS 1.
    02  LINE NUMBER IS PLUS 4.
        03  COLUMN 10 PIC X(10)  VALUE IS
             'PROCESSOR:'
        03 COLUMN 24 PIC X(1) SOURCE IS
           PROCODE OF REPORT-RECORD.
    02  LINE NUMBER IS PLUS 2.
        03  COLUMN 11 PIC X(12) VALUE IS 'PURCHASE'.
        03  COLUMN 47 PIC X(4) VALUE IS 'DATE'.
    02  LINE NUMBER IS PLUS 1.
        03  COLUMN 9  PIC X(12)  VALUE IS
            'ORDER NUMBER'.
        03  COLUMN 26  PIC X(14)  VALUE IS
            'INVOICE NUMBER'.
        03  COLUMN 45  PIC X(8)  VALUE IS
            'RECEIVED'.
01  INVOICE-INFO TYPE IS DETAIL.
    02  LINE NUMBER IS PLUS 1.
        03 COLUMN 10 PIC X(2) SOURCE IS YEAR OF
           REPORT-RECORD.
        03 COLUMN 12 PIC X(1) VALUE IS '-'.
        03 COLUMN 13 PIC X(1) SOURCE IS PCODE OF
           REPORT-RECORD.
        03 COLUMN 14 PIC X(1) VALUE IS '-'.
        03 COLUMN 15 PIC X(4) SOURCE IS PNUMBER OF
           REPORT-RECORD.
        03 COLUMN 31 PIC X(6) SOURCE IS INUMBER OF
           REPORT-RECORD (I).
        03 COLUMN 47 PIC X(4) SOURCE IS DATE-RECVD OF
           REPORT-RECORD (I).
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
```

```
    PERFORM GENERATE-REPORT UNTIL MORE-DATA
    IS EQUAL TO 'NO'.
    PERFORM CLEANUP.
    STOP RUN.
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT INVOICE-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE INVOICE-REPORT.
GENERATE-REPORT.
    MOVE 1 TO I.
    PERFORM CHECK-DATE 5 TIMES.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
CHECK-DATE.
    IF DATE-RECVD OF REPORT-RECORD (I) IS NOT EQUAL
    TO SPACES
    AND DATE-FWD OF REPORT-RECORD (I) IS EQUAL
    TO SPACES
          GENERATE INVOICE-INFO.
    ADD 1 TO I.
CLEANUP.
    TERMINATE INVOICE-REPORT.
    CLOSE REPORT-FILE, INVOICE-FILE.
    DISPLAY 'SUCCESSFUL END OF REPORT PROGRAM'.
```

REQUISITION STATUS REPORT

```
REPORT SECTION.
RD  REQN-REPORT
    CONTROLS ARE UIC OF REPORT-RECORD,
    CUST-CODE OF REPORT-RECORD,
    JDATE OF REPORT-RECORD,
    SERNUM OF REPORT-RECORD,
    PAGE LIMIT IS 59 LINES,
```

```
    HEADING 13, FIRST DETAIL 17,
    LAST DETAIL 53, FOOTING 55.
01  TYPE IS REPORT HEADING.
    02  LINE 13.
        03  COLUMN 30 PIC X(25) VALUE IS
            'REQUISITION STATUS REPORT'.
01  PAGE-HEAD TYPE IS PAGE HEADING.
    02  LINE IS 15.
        03  COLUMN 15 PIC X(54) VALUE IS
            'REPORT OF OUTSTANDING REQUISITIONS
             BY UIC/CUSTOMER'.
01  UIC-HEADER TYPE IS CONTROL HEADING
    UIC OF REPORT-RECORD NEXT GROUP IS PLUS 1.
    02  LINE PLUS 4.
        03  COLUMN 15 PIC X(4) VALUE IS 'UIC:'.
        03  COLUMN 21 PIC X(1) SOURCE IS
            SERVCODE OF REPORT-RECORD.
        03  COLUMN 22 PIC X(5) SOURCE IS
            UIC OF REPORT-RECORD.
01  CUST-CODE-HEADER TYPE IS CONTROL HEADING
    CUST-CODE OF REPORT-RECORD NEXT GROUP IS PLUS 1.
    02  LINE PLUS 2.
        03  COLUMN 15 PIC X(14) VALUE IS
            'CUSTOMER CODE:'.
        03  COLUMN 32 PIC X(3) SOURCE IS
            CUST-CODE OF REPORT-RECORD.
    02  LINE PLUS 2.
       03  COLUMN 15 PIC X(15) VALUE IS
           'DOCUMENT NUMBER'.
       03  COLUMN 35 PIC X(21) VALUE IS
           'PURCHASE ORDER NUMBER'.
       03  COLUMN 62 PIC X(6) VALUE IS 'STATUS'.
01  REQN-INFO TYPE IS DETAIL.
    02  LINE IS PLUS 1.
```

```
        03  COLUMN 18 PIC X(4) GROUP INDICATE SOURCE
            IS JDATE OF REPORT-RECORD.
        03  COLUMN 24 PIC X(4) GROUP INDICATE SOURCE
            IS SERNUM OF REPORT-RECORD.
        03  COLUMN 40 PIC X(2) SOURCE IS
            YEAR OF REPORT-RECORD.
        03  COLUMN 43 PIC X(1) SOURCE IS
            PCODE OF REPORT-RECORD.
        03  COLUMN 45 PIC X(4) SOURCE IS
            PNUMBER OF REPORT-RECORD.
        03  COLUMN 59 PIC X(30) SOURCE IS
            PSTAT OF REPORT-RECORD (I).
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
    PERFORM GENERATE-REPORT UNTIL MORE-DATA IS EQUAL
    TO 'NC'.
    PERFORM CLEANUP.
    STOP RUN.
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT REQN-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE REQN-REPORT.
GENERATE-REPORT.
    MOVE 1 TO I.
    PERFORM DO UNTIL I = 6.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
DO.
    IF PSTAT OF REPORT-RECORD (I)
    IS NOT EQUAL TO SPACES
            GENERATE REQN-INFO.
    ADD 1 TO I.
CLEANUP.
    TERMINATE REQN-REPORT.
    CLOSE REPORT-FILE, REQN-FILE.
```

MONTHLY VOLUME REPORT

```
REPORT SECTION.
RD  VOLUME-REPORT
    PAGE LIMIT IS 65 LINES,
    HEADING 2, FIRST DETAIL 10,
    LAST DETAIL 52, FOOTING 55.
01  TYPE IS REPORT HEADING.
    02  LINE 14.
        03  COLUMN 50 PIC X(18) VALUE IS
            'DATE  ____________'.
    02  LINE 16.
        03  COLUMN 10 PIC X(32) VALUE IS
            'FROM:  ISSUE CONTROL, CODE 4221B'.
    02  LINE 18.
        03  COLUMN 10 PIC X(30) VALUE IS
            'TO:    SUPPLY OFFICER, CODE 42'.
    02  LINE 20.
        03  COLUMN 10 PIC X(43) VALUE IS
            'SUBJ:  MONTHLY VOLUME REPORT FOR
             THE PERIOD'.
    02  LINE 22.
        03  COLUMN 17 PIC X(24) VALUE IS
            '_________ THRU _________'.
    02  LINE 28.
       03  COLUMN 10 PIC X(35) VALUE IS
           '1.  NON-STANDARD STOCK REQUISITIONS'.
       03  COLUMN 51 PIC X(12) VALUE IS
           'ISSUE GROUPS'.
    02  LINE 30.
        03  COLUMN 16 PIC X(3) VALUE IS 'UIC'.
        03  COLUMN 46 PIC X(1) VALUE IS 'A'.
        03  COLUMN 56 PIC X(1) VALUE IS 'B'.
        03  COLUMN 66 PIC X(1) VALUE IS 'C'.
```

```
02  LINE 32.
    03  COLUMN 14 PIC X(6)  VALUE IS 'X62271'.
    03  COLUMN 45 PIC 999 SOURCE IS COUNTAD.
    03  COLUMN 55 PIC 999 SOURCE IS COUNTBD.
    03  COLUMN 65 PIC 999 SOURCE IS COUNTCD.
02  LINE 34.
    03  COLUMN 14 PIC X(6)  VALUE IS 'OTHER'.
    03  COLUMN 45 PIC 999 SOURCE IS COUNTDD.
    03  COLUMN 55 PIC 999 SOURCE IS COUNTED.
    03  COLUMN 65 PIC 999 SOURCE IS COUNTFD.
02  LINE 38.
    03  COLUMN 10 PIC X(31)  VALUE IS
        '2.  STANDARD STOCK REQUISITIONS'.
    03  COLUMN 51 PIC X(12)  VALUE IS
        'ISSUE GROUPS'.
02  LINE 40.
    03  COLUMN 16 PIC X(3)  VALUE IS 'UIC'.
    03  COLUMN 46 PIC X(1)  VALUE IS 'A'.
    03  COLUMN 56 PIC X(1)  VALUE IS 'B'.
    03  COLUMN 66 PIC X(1)  VALUE IS 'C'.
02  LINE 42.
    03  COLUMN 14 PIC X(6)  VALUE IS 'X62271'.
    03  COLUMN 45 PIC 999 SOURCE IS COUNTGD.
    03  COLUMN 55 PIC 999 SOURCE IS COUNTHD.
    03  COLUMN 65 PIC 999 SOURCE IS COUNTID.
02  LINE 44.
    03  COLUMN 14 PIC X(6)  VALUE IS 'OTHER'.
    03  COLUMN 45 PIC 999 SOURCE IS COUNTJD.
    03  COLUMN 55 PIC 999 SOURCE IS COUNTKD.
    03  COLUMN 65 PIC 999 SOURCE IS COUNTLD.
02  LINE 56.
    03  COLUMN 43 PIC X(20)  VALUE IS
        '____________________'.
02  LINE 57.
    03  COLUMN 48 PIC X(9)  VALUE IS 'SIGNATURE'.
```

```
    02  LINE 62.
        03  COLUMN 10 PIC X(8) VALUE IS 'COPY TO:'.
    02  LINE 63.
        03  COLUMN 10 PIC X(8) VALUE IS 'CODE 422'.
    02  LINE 64.
        03  COLUMN 10 PIC X(9) VALUE IS 'CODE 4201'.
PROCEDURE DIVISION.
CONTROL-SECTION.
    PERFORM STARTUP.
    PERFORM COUNT-ROUTINE UNTIL MORE-DATA IS EQUAL
    TO 'NO'.
    PERFORM GENERATE-REPORT.
    PERFORM CLEANUP.
    STOP RUN.
STARTUP.
    OPEN INPUT REPORT-FILE, OUTPUT VOLUME-FILE.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
    INITIATE VOLUME-REPORT.
COUNT-ROUTINE.
    IF NIIN OF REPORT-RECORD IS EQUAL TO SPACES
       IF UIC OF REPORT-RECORD IS EQUAL TO '62271'
          IF PRI OF REPORT-RECORD IS EQUAL TO ' 5'
             ADD 1 TO COUNTA
          ELSE IF PRI OF REPORT-RECORD IS EQUAL TO
         '10'
                    ADD 1 TO COUNTB
               ELSE ADD 1 TO COUNTC
            UIC OF REPORT-RECORD.
       ELSE IF PRI OF REPORT-RECORD IS EQUAL TO ' 5'
               ADD 1 TO COUNTD
            ELSE IF PRI OF REPORT-RECORD IS EQUAL TO
            '10'
                    ADD 1 TO COUNTE
                 ELSE ADD 1 TO COUNTF
```

```
    ELSE IF UIC OF REPORT-RECORD IS EQUAL TO '62271'
            IF PRI OF REPORT-RECORD IS EQUAL TO ' 5'
               ADD 1 TO COUNTG
            ELSE IF PRI OF REPORT-RECORD IS EQUAL TO
            '10'
                    ADD 1 TO COUNTH
                 ELSE ADD 1 TO COUNTI
         ELSE IF PRI OF REPORT-RECORD IS EQUAL TO
         ' 5'
                 ADD 1 TO COUNTJ
              ELSE IF PRI OF REPORT-RECORD IS EQUAL
              '10'
                      ADD 1 TO COUNTK
                   ELSE ADD 1 TO COUNTL.
    READ REPORT-FILE AT END MOVE 'NO' TO MORE-DATA.
GENERATE-REPORT.
    MOVE COUNTA TO COUNTAD.
    MOVE COUNTB TO COUNTBD.
    MOVE COUNTC TO COUNTCD.
    MOVE COUNTD TO COUNTDD.
    MOVE COUNTE TO COUNTED.
    MOVE COUNTF TO COUNTFD.
    MOVE COUNTG TO COUNTGD.
    MOVE COUNTH TO COUNTHD.
    MOVE COUNTI TO COUNTID.
    MOVE COUNTJ TO COUNTJD.
    MOVE COUNTK TO COUNTKD.
    MOVE COUNTL TO COUNTLD.
    GENERATE VOLUME-REPORT.
CLEANUP.
    TERMINATE VOLUME-REPORT.
    CLOSE REPORT-FILE, VOLUME-FILE.
```

APPENDIX F

REPORTS

PURCHASE ORDER / DOCUMENT NUMBER CROSS REFERENCE LISTING

OUTSTANDING NON-STANDARD STOCK ONLY

DOCUMENT NUMBER	PURCHASE ORDER NUMBER
X41321-2250-5219	82-M-1266
X41321-2250-5225	82-F-2176
X62271-2250-6115	82-M-1266
X62271-2250-6116	82-M-1266
X62271-2250-6122	82-F-1273
X62271-2250-6603	82-F-1280
X62271-2250-6723	82-F-2280
X41321-2251-5320	82-M-1266
X41321-2251-5567	82-F-3199
X41321-2251-5738	82-F-2222
X62271-2251-6123	82-F-1274
X62271-2252-6104	82-M-1201
X62271-2252-6124	82-F-1375
X41321-2253-5235	82-F-3176
X41321-2253-5245	82-F-2876
X62271-2253-6132	82-F-2273
X62271-2253-6133	82-F-2274
X62271-2253-6134	82-F-2375
X62271-2253-6142	82-F-1873
X62271-2253-6143	82-F-1874
X62271-2253-6144	82-F-1875

HISTORICAL INVOICE LISTING

INVOICES RECEIVED BY VENDOR

VENDOR: ACE HARDWARE

INVOICE NUMBER	PURCHASE ORDER NUMBER	DATE RECEIVED	DATE FORWARDED	AMOUNT
12345	82-M-1201	2275	2276	2,200.00
12345	82-M-1201	2275	2276	2,200.00
12345	82-M-1201	2275	2276	2,200.00
12446	82-M-1201	2277		800.00

VENDOR: COLBY SUPPLY

INVOICE NUMBER	PURCHASE ORDER NUMBER	DATE RECEIVED	DATE FORWARDED	AMOUNT
56789	82-M-1266	2273	2276	400.00
56778	82-M-1266	2273		300.00
57777	82-M-1266	2273		200.00
57766	82-M-1266	2274		100.00

VENDOR: PACIFIC INC.

INVOICE NUMBER	PURCHASE ORDER NUMBER	DATE RECEIVED	DATE FORWARDED	AMOUNT
87462	82-F-1272	2273	2275	100.00
87354	82-F-1277	2273		300.00
83629	82-F-1322	2273	2274	500.00
77564	82-F-1822	2273	2276	1,120.00
22807	82-F-1872	2273	2274	700.00
26439	82-F-2272	2273		500.00

45997	82-F-2277	2273	2274	400.00

VENDOR: TRIDENT CO.

INVOICE NUMBER	PURCHASE ORDER NUMBER	DATE RECEIVED	DATE FORWARDED	AMOUNT
88763	82-F-1271	2273	2274	200.00
00019	82-F-1271	2274		2,100.00
00012	82-F-1271	2273	2275	100.00
23746	82-F-1278	2273		400.00
45372	82-F-1279	2273	2275	400.00
43638	82-F-1281	2273		400.00
99946	82-F-1871	2273	2275	200.00
33372	82-F-1878	2273	2275	500.00
00923	82-F-1879	2273	2275	100.00
33999	82-F-1881	2273		100.00
46538	82-F-2134	2273		200.00
82046	82-F-2271	2273	2274	100.00
37734	82-F-2278	2273	2275	800.00
77746	82-F-2279	2273	2275	2,100.00
65656	82-F-2281	2273	2274	2,200.00
33392	82-F-2834	2273	2275	200.00

MATERIAL BY VENDOR LISTING

OUTSTANDING REQUISITIONS BY VENDOR

VENDOR: ACE HARDWARE

PURCHASE ORDER NUMBER	DOCUMENT NUMBER
82-M-1201	X62271-2252-6104

VENDOR: COLBY SUPPLY

PURCHASE ORDER NUMBER	DOCUMENT NUMBER
82-M-1266	X62271-2250-6115
82-M-1266	X62271-2250-6116
82-M-1266	X41321-2250-5219
82-M-1266	X41321-2251-5320

VENDOR: PACIFIC INC.

PURCHASE ORDER NUMBER	DOCUMENT NUMBER
82-F-1375	X62271-2252-6124
82-F-1875	X62271-2253-6144
82-F-2176	X41321-2250-5225
82-F-2375	X62271-2253-6134
82-F-2876	X41321-2253-5245

VENDOR: TRIDENT CO.

PURCHASE ORDER NUMBER	DOCUMENT NUMBER
82-F-1273	X62271-2250-6122
82-F-1274	X62271-2251-6123
82-F-1280	X62271-2250-6603
82-F-1873	X62271-2253-6142
82-F-1874	X62271-2253-6143
82-F-1880	X62271-2255-6424
82-F-2222	X41321-2251-5738
82-F-2273	X62271-2253-6132
82-F-2274	X62271-2253-6133
82-F-2280	X62271-2250-6723
82-F-3000	X41321-2255-5314
82-F-3199	X41321-2251-5567

DAILY INVOICE REPORT

INVOICES RECEIVED AND NOT PROCESSED, BY PROCESSOR

PROCESSOR: 1

PURCHASE ORDER NUMBER	INVOICE NUMBER	DATE RECEIVED
82-M-1201	12446	2277
82-M-1266	56778	2273
82-M-1266	57777	2273
82-M-1266	57766	2274
82-M-1255	22345	2275
82-M-1255	22444	2274
82-M-1255	22446	2273
82-M-1255	23344	2273

PROCESSOR: 3

PURCHASE ORDER NUMBER	INVOICE NUMBER	DATE RECEIVED
82-F-1277	87354	2273
82-F-1877	88833	2273
82-F-2272	26439	2273
82-F-2322	68477	2273
82-F-1271	00019	2274
82-F-1278	23746	2273
82-F-1281	43638	2273
82-F-1881	33999	2273
82-F-2134	46538	2273

REQUISITION STATUS REPORT

```
REPORT OF OUTSTANDING REQUISITIONS BY UIC/CUSTOMER


UIC:  X41321

CUSTOMER CODE:    111

DOCUMENT NUMBER   PURCHASE ORDER NUMBER    STATUS

   2004  2154                            BM NOZ 2009
   2004  2156                            BA NOZ 2115
   2005  2181                            BA NOZ 2115
   2005  2182                            BM NOZ 2009
                                         BM N35 2100
                                         BM NOZ 2160
                                         BM NOZ 2009
                                         BM N35 2100
   2005  2189                            BA NOZ 2110
   2104  2154                            BA NOZ 2200
   2114  2154                            BM NOZ 2229
   2205  2182                            BM NOZ 2310
                                         BM NOZ 2210
                                         BA NOZ 2215
   2215  2182                            BM NOZ 2220
                                         BB NOZ EDD 3008
                                         BM NOZ 2220
   2250  5219          82 M 1266         EDD 2302
   2250  5225          82 F 2176         EDD 2244
   2253  5235          82 F 3176         EDD 2300
   2253  5245          82 F 2876         EDD 2303
```

```
CUSTOMER CODE:   222

DOCUMENT NUMBER   PURCHASE ORDER NUMBER    STATUS

   2251  5320              82 M 1266        EDD 2200
   2251  5567              82 F 3199        EDD 2255
   2251  5738              82 F 2222        EDD 2288
   2255  5314              82 F 3000        EDD 2299


UIC:  X62271

CUSTOMER CODE:   001

DOCUMENT NUMBER   PURCHASE ORDER NUMBER    STATUS

  2004  1572                           BM NOZ 2009
                                       BB NOZ EDD 2200
  2004  1783                           BM NOZ 2009
                                       BB NOZ EDD 2185
  2004  2572                           BM NOZ 2118
                                       BM N35 2130
                                       BM NHZ 2149
  2004  2783                           BM NOZ
  2008  1811                           BM NOZ 2010
                                       BM N35 2020
  2008  2811                           BA NOZ 2200
  2102  2111                           BB NOZ EDD 2189
  2102  2112                           BM NOZ 2110
  2250  6115            82 M 1266      EDD 2300
  2252  6104            82 M 1201      EDD 2311
  2252  6124            82 F 1375      EDD 2300
  2253  6134            82 F 2375      EDD 2344
  2253  6144            82 F 1875      EDD 2303
  2302  2112                           BM NOZ 2330
                                       BB NOZ EDD 2360
```

```
CUSTOMER CODE:   002

DOCUMENT NUMBER   PURCHASE ORDER NUMBER    STATUS

  2009  1844                            BB NOZ 2020 EDD2050
  2009  2844                            BA NNZ 2210
  2101  1910                            BM NOZ 2105
  2101  1980                            BB NOZ EDD 2300
  2101  2910                            BA NOZ 2310
```

VOLUME REPORT

DATE ____________

FROM: ISSUE CONTROL, CODE 4221B
TO: SUPPLY OFFICER, CODE 42
SUBJ: MONTHLY VOLUME REPORT FOR THE PERIOD
_________ THRU _________

1. NON-STANDARD STOCK REQUISITIONS ISSUE GROUPS

UIC	A	B	C
X62271	000	018	027
OTHER	009	009	000

2. STANDARD STOCK REQUISITIONS ISSUE GROUPS

UIC	A	B	C
X62271	001	014	013
OTHER	001	005	006

____
SIGNATURE

COPY TO:
CODE 422
CODE 4201

LIST OF REFERENCES

1. Naval Postgraduate School Instruction 5400.2A, 1 April 1982.

2. Public Law 97-177, *Prompt Payments Act of 1982*, May 21, 1982.

3. Secretary of the Navy Message, "Prompt Payment Act (P.L. 97-177)", Date Time Group 082110 July 82.

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